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FREIGHT TRAFFIC ISSUE

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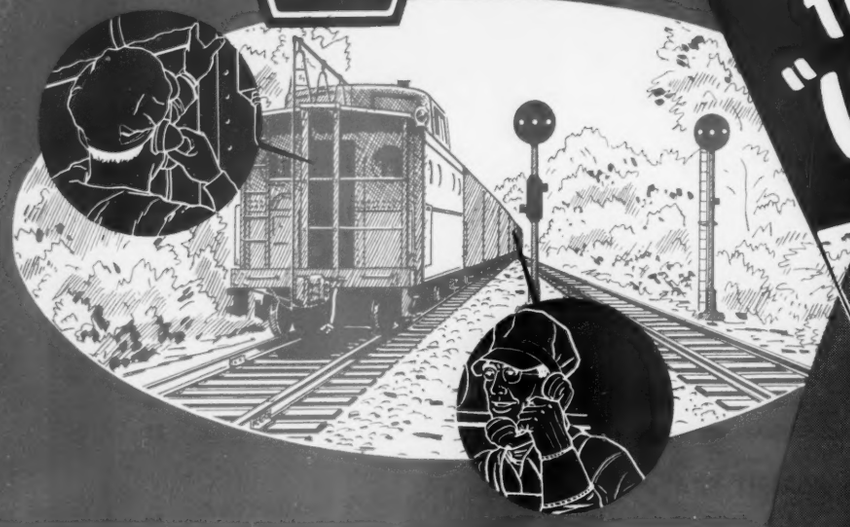

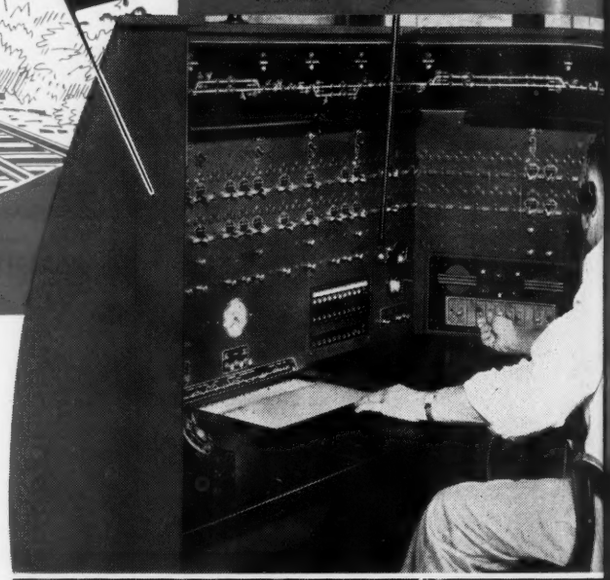

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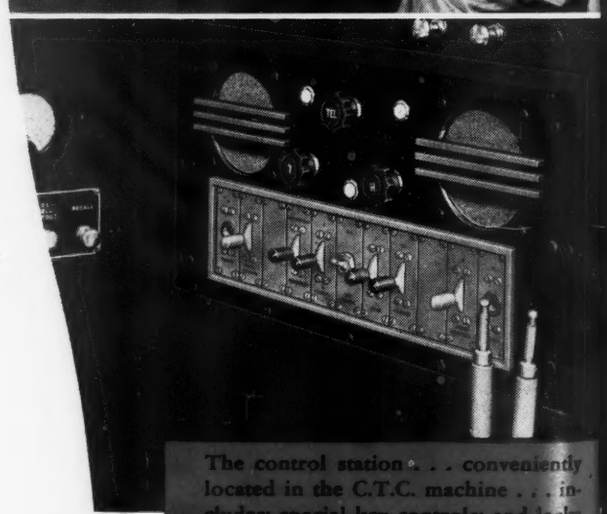

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WEEK AT A GLANCE

FREIGHT TRAFFIC: As more fully explained on page 26, freight traffic—and what various railroads are doing to improve their freight service—is the major theme of this issue. The first half-dozen feature articles, in fact, all deal with one aspect or another of freight movement. Two of the six deal with freight facilities; three with freight operations, and one with rates.

"KEYSTONE" SERVICE: First, in point of order, of the three articles on freight service and operations is a description of the Pennsylvania's new "Keystone" service for less-carload freight (page 33). Just inaugurated, on a system-wide basis, for both local and interchange movements, the new service is based on direct loading and regular dispatch of merchandise cars or containers between 139 "zone stations"; prompt unloading and distribution of freight; and careful coordination with trucks used either in place of local freight trains or in pick-up and delivery services. Special equipment, mechanization of freight stations, new accounting procedures, emphasis on loss and damage prevention, merchandising and stimulation of employee interest are also important parts of the new program, which the P.R.R. says is intended to meet shipper requirements for a "complete, modern, expedited service."

MONTREAL-TORONTO—OVERNIGHT: L.c.l. service is also the subject of the article on page 42, which tells how the Canadian Pacific and the Canadian National are successfully meeting truck competition on the 335-mi. Montreal-Toronto run, by providing dependable overnight service.

POTATOES BY THE TRAINLOAD: The third freight-service article (page 38) tells how the Bangor & Aroostook and its connections keep Maine potatoes rolling to New York markets—on privately owned steel rails instead of publicly built highways. There's a good deal more material in this article, too—about the B.&A.'s other freight services, its passenger business, its financial set-up, and its public and employee relations. But potato movement is the major theme, just as potato growing is a major industry in the Maine territory which the B.&A. serves so well.

COAL PIERS AND CARRIERS: Of the articles covering freight-service facilities, the first, beginning on page 28, is an illustrated description of the Chesapeake & Ohio's big new low-level coal pier and related facilities at Newport News, Va. The second, on page 47, and also illustrated, deals with an overhead conveyor which the Boston & Maine has installed in its freighthouse at Gardner, Mass., to facilitate and expedite handling of l.c.l. traffic.

ON THE GRAPEVINE: Mr. Lewis' constantly recurring demands on the coal industry, with their unsettling effects on both supply and price, are reported to be causing the Chesapeake & Ohio to give serious consideration to increasing its use of Diesel-electric locomotives.—Some 60 top traffic officers of roads in Trunk-Line, New England and Central territories are closeted at a country retreat talking to a conclusion what must be done to stem and reverse the extraordinary diversion of iron and steel products to the highways. Difficulty is to make reductions between points where competition is keenest without losing revenues on hauls where it is less severe.

ANALYSIS OF 1949 FINANCIAL RESULTS: The latest "Monthly Comment" of the I.C.C.'s Bureau of Transport Economics and Statistics, reviewed on page 52, is devoted largely to a review of 1949 financial results of Class I railroads, compared with 1940 and 1948.

ONLY SHIPPERS CAN PREVENT—eventual socialization of railroads, is the thesis of our leading editorial, on page 25. As the editorial points out, shippers are virtually unanimous in their verbal opposition to such socialization, but verbal opposition alone won't prevent it. What will really count will not be what is said, but what is done—some expression of political power comparable to that which brought about passage of the Bulwinkle Bill. Such political power, the editorial also says, is primarily responsible for the regulatory and competitive handicaps facing the railroads; it, and it alone, can remove them.

IN THE WEEK'S NEWS: Estimate of January revenues.—Institution by the I.C.C. of an investigation of "free rides."—The coal situation.—Long Island wreck.—Liberalized pension proposals in Congress.—Nickel Plate again an A.A.R. member.—Opposition to continuation of transportation excise taxes.

RADIANT HEATING FOR PASSENGER CARS: One of this issue's few articles not dealing directly with some phase of freight traffic is the discussion on page 48, by M. L. Ghai, of the Pullman-Standard Car Manufacturing Company, of the principles of radiant heating for passenger cars.

NEW BRITISH RATE PATTERN. Now under consideration in Great Britain is a proposed wholesale revision of the transportation rate pattern. In this country, no less than in Great Britain, carriers and shippers alike have a vital interest in finding rates which will move traffic, meet competition and earn adequate revenue. There are doubtless valuable lessons to be learned and suggestions well worth examination in the proposed British pattern. The discussion of this pattern by so outstanding a traffic authority as G. Lloyd Wilson (page 44) is particularly timely in an issue devoted as largely as is this one to freight traffic.

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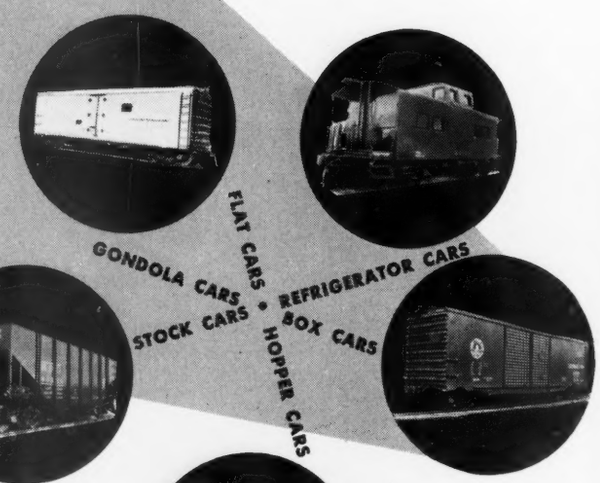

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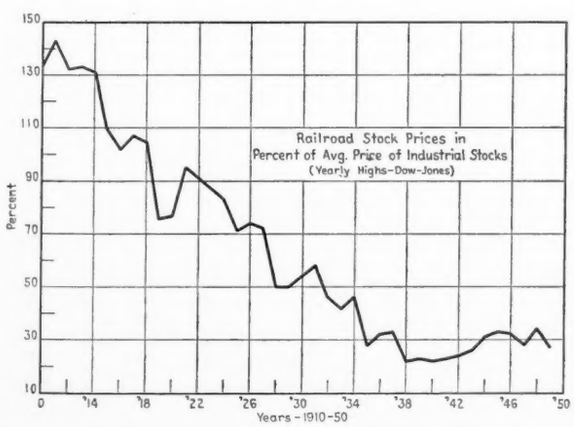
Only the Shippers Can Prevent Socialization of the Railroads

There can be no doubt that the opinion of articulate shippers is—or at any time could become, merely by asserting itself—the dominant political power in determining governmental policies, both national and local, toward the transportation industry, or any segment of it. The political power of shippers was clearly demonstrated in the enactment of the Bulwinkle Bill, which was supported by organized shippers in the face of determined opposition by vigorous left-wing political elements. When the weight of shipper opinion can win through against such resistance, it is evident that its influence would be overwhelming on most other questions of transportation policy where the left-wing element has, so far, made no open declaration of its position.



BUSINESS LEADERS ARE COMPLAINING ABOUT THE DIFFICULTY GENERAL BUSINESS FACES IN RAISING EQUITY CAPITAL—BUT SEE IN THIS CHART HOW MUCH WORSE OFF THE RAILROADS ARE THAN OTHER INDUSTRY IN THE POPULARITY OF THEIR EQUITIES WITH INVESTORS. THE RAILROADS' DISADVANTAGE IN THIS RESPECT COMES, OF COURSE, FROM THE REGULATION AND GOVERNMENT COMPETITION TO WHICH THE RAILROADS ARE SUBJECTED, WITH THE ASSENT OF BUSINESS LEADERSHIP

Since the shippers possess the power to issue the instructions to the legislative authorities who determine the rules under which the transportation business is conducted, it follows that the shipping fraternity must accept the primary responsibility for the inequalities and frictions—even chaos is not too strong a word—which now plague the transportation industry, and which are heading the railroads straight toward insolvency and government ownership. The shippers do not seem to be able to make up their minds on any really controversial policy toward transportation except government ownership. That they do not want. That is, they *say* they do not want it—but the issue of government ownership will be decided by what people *do* about it, not just by what they *say* about it. Most Americans orated against prohibition for a dozen years without effect on actual conditions. When they began to *vote the way they talked*, prohibition quickly vanished. The danger of government ownership of railroads will

vanish too, when shippers and other citizens cease merely denouncing it and begin to vote against the conditions in transportation which make it an active threat, as it is now.

Leaders of general business are complaining, with justice, that present tax policies and their current earnings—which average three or four times the rate that the railroads are earning—are shutting off an adequate inflow of new capital, equity capital especially, to industry and business generally. But look at the accompanying chart which shows the market price of railroad equity securities in percentages of the market price of industrial stocks! The leaders of industry are crying of their sad lot to the public—but, meantime, they do nothing to help bring the much more downtrodden railroads up to their own level, which they consider to be so far below par. It would be no achievement at all for general business to bring the railroads up to their own level—because *all the political handicaps which keep the railroads below the par of general business have their origin in the action of business management.* It is business' insistence upon rigid regulation of the railroads which prevents the railroads from realistic pricing of their services. It is business' insistence upon subsidies to long-haul trucking and inland waterway operations which enables these rivals of the railroads to capture traffic to which they have no economic claim.

Business is going forward with a mighty campaign to teach the elements of "sound economics" to the common people—a most worthy enterprise indeed. But isn't business leadership overlooking the elementary pedagogical principle that *example is more impressive than precept?* Would not this great campaign of popular education gain tremendously in effectiveness, if business would practice the same brand of sound economics in its dealings with transportation that it asks the public and the legislators to adopt in their treatment of business in general?

Railroads Still a Growing Industry

Some people try to dismiss the financial plight of the railroads by the assertion that the railroads are a "declining industry"—hence that they have need for very little new capital, and can supply that small need from microscopic earnings, as the industry slowly sinks into oblivion. This assumption is quite the opposite from the truth. The railroads are, on the contrary, a growing industry, especially for the transportation of freight. With all their loss of tonnage to subsidized rivals, the railroads continue to haul more freight—not only as population grows, but more freight *per capita.* For example, in 1948 freight service *per capita* by the Class I railroads attained the enormous level of 4,307 ton-miles, which was almost 60 per cent more *per capita* than the Class I railroads hauled back in 1911—long before the motor truck had become a factor in transportation, and when neither inland waterways nor pipe lines carried any appreciable quantity of traffic, either.

No, the railroads are not passé. They have simply become unprofitable—and, hence, no longer attractive to private investors. They have not become unprofitable for intrinsic reasons, but for external reasons which are wholly arbitrary and wholly political; and which are wholly removable by reversing the political action which established these handicaps to profitability. Shippers do not need to be told what these handicaps are—namely, rigorous regulation of rates in the face of competition which is, for the most part, not effectively regulated at all (and cannot be, so long as private transportation is permitted); and financing by government of facilities used by rival agencies, with non-compensatory charges for the use of such facilities. If these handicaps were removed—and the demand of shippers is the only political power strong enough to remove them—then railroading would become overnight just as profitable as any other necessary and progressive private industry; and just as able as any other industry to attract investment capital to keep its facilities modern and adequate to all demands.

And the cause of popular education in the funda-

OF INTEREST TO FREIGHT TRAFFIC PEOPLE

With this issue *Railway Age* inaugurates a program of concentrating in one of its issues each month articles, news and editorial discussion of particular interest to freight traffic people, whether on railroads or in the service of industry. For example, the leading editorial in this issue and six of the feature articles are devoted to subjects of interest to the freight traffic fraternity.

Freight traffic is of course the very lifeblood of the railroad industry; and until this service is once more accorded more realistic regulation and competitive stability, the future of the railroad industry will remain uncertain. It is with the intention of contributing constructively to this highly desirable goal, and frankly as an exponent of railroad welfare, that *Railway Age* has inaugurated this new editorial program. The monthly issues featuring freight traffic subjects will be widely circulated among important industrial traffic men, including those who are not regular subscribers to *Railway Age*.

mentals of sound economics would receive a mighty thrust upward—because business would have demonstrated its sincerity by practicing the sound principles it is striving so hard to teach.

In Shippers' Selfish Interest

No sacrifice of their own interests is required of businessmen and shippers in the adoption of such a foresighted policy toward transportation, because it is in the selfish interest of purchasers of transportation service that the job be done, on the whole, by those agencies which can do it most economically and most efficiently. When an economical method of transportation, because of purely artificial handicaps, loses traffic to less economical agencies, then the total overall cost of transportation inevitably rises; and the increased cost is borne by the users of transportation, either in higher average rates or in higher taxes, or both.

The situation is so serious that it cannot be temporized with any longer. The railroad industry in 1949, with gross revenue of $8½ billion, had only $687 million of net operating income—just about equal to the earnings of the depression year 1936, when gross was less than half as much as it was in 1949; and when investment in road and equipment was $4 billion less than it is today. Net operating income in 1949 was just about even with that of 1915, when gross was only one-third as large as it was in 1949, and when investment in road and equipment was $12 billion less than it is today. Such earnings are starving the railroads of new capital, and national necessity cannot permit this starvation to continue. Either those who have the political power to remove the handicaps to adequate railroad earnings will soon use their power to that effect, or the railroads will have to be financed with government money.

Does it require extraordinary foresight to foresee what demands would fall upon the railroads overnight if the "cold war" should become just "hot" enough to require that no more than half of automotive manufacturing facilities and automotive fuel be diverted to military uses?

REBUILD OR BUY NEW?

While there are others at work, one factor in the sharp decline in freight car orders which took place during 1949 was the feeling on the part of many railway executives that freight car prices were too high. This, together with the decline in traffic with its unfavorable financial effect, caused a substantially unanimous action in getting out of the market.

The question of freight car prices is one of more than one aspect. In absolute figures there is no question but that prices at that time were, and now are, high, but unless they are high in relation to the general level of prices they cannot be considered too high. Action taken on the assumption that they are is not likely to lead to the best economic results. For this reason the two-part article by William Wyer which appeared in the January 28 and February 4 issues of this paper* are particularly timely. The author has presented a simple and easily followed analysis of all of the factors which affect the comparative economic results of continuing to keep old cars in service by rebuilding or general repairs, and retiring and replacing the old cars with new. By a careful evaluation of all these factors, pro and con, an answer is obtained which takes into account the price of the new car in its relation to the prices of materials and labor costs which the railroad will have to pay to keep the old car going, and it is an answer on which action may be taken with confidence that the result will be on the side of economy in the circumstances.

The present time is a poor one in which to refrain from purchasing freight cars on a one-sided decision based on the first cost of the new car. The job of cleaning up the freight-car inventory left by the war has not yet been completed. Many old cars are still in service which need either complete rebuilding or retirement in the interest of good and efficient railroad service. Loss and damage claims resulting from equipment defects are wasteful items of expense and need to be curbed in the interest of net railway operating income. But their prevention is equally important—perhaps more important—as a means of reducing the cause of irritation and loss to consignees and shippers which plays into the hands of competing transportation agencies.

Studies of freight car inventories along the lines set forth by Mr. Wyer, looking toward sound action and improving freight car conditions, are, therefore, particularly pertinent at the present time.

*Freight Cars—Repair, Rebuild or Buy New? by William Wyer, in Railway Age of January 28, page 27, and February 4, page 38.

"The problem of subsidized transportation has become critical. You may never ride on a plane—but, in one way or another, you pay for part of the tickets bought by those who do. You may never ship anything by highway carrier—yet, again, you help subsidize those who use this form of transportation. The breakdown of highways caused by the heavy modern truck-and-trailer jobs, and the cost of building new roads capable of standing great loads moved at high speeds, is a headache to the taxpayers in almost all the states. The railroads have no subsidy. They must pay their own way in every particular. No one provides them with right-of-ways, stations, terminals or anything else. Here is where our obsolete transportation and regulatory policy, which was largely established in the days when railroads had little competition, is most unjust."

—From an editorial in the Montpelier, Vt., Evening Argus

New Type Coa Pie

The conveyor-belt systems, the four loading towers and the extensive supporting facilities at the inshore end are features of the new coal pier that are visible in this view

From the loaded yard in far background the cars roll by gravity past the scale house, through the coal-thawing plants, and are then propelled by barneys up the inclines to the rotary dumpers (foreground). A rider mans each car to operate brakes. Note "empty" yards on each side of loaded yard

Coal Pier Speeds Tidewater Coal Loading

Port facility placed in service at Newport News, Va., by Chesapeake & Ohio, serves four ships simultaneously and employs belt conveyors and movable towers in loading up to 6,000 tons an hour

The already extensive harbor facilities of the Chesapeake & Ohio at its eastern terminal at Newport News, Va., have been augmented recently by a new low-level coal pier and related facilities, capable of serving up to four ships at one time, and with a potential loading capacity of 6,000 tons an hour, equivalent roughly to 2,800 cars a day. Completion of the project, which cost approximately $8,785,000, gives the C. & O. three coal piers at this important point, with a combined potential loading capacity of 14,000 tons an hour.

The new pier—designated as Pier 14—differs from most other coal piers in that it employs a system of belt conveyors to handle coal from a car dumper, inshore from the pier, to four traveling towers, each with its own conveyor system, which may be spotted at any point along the pier to perform the actual loading operation. Two of the towers serve each side of the pier. The length of the pier—1,069 ft.—is sufficient to accommodate two vessels on each side, thus making it possible to load four ships simultaneously. When only one ship is being loaded along one side of the pier, the two towers serving that side may be used to reduce the time required for loading.

New Supporting Facilities

The supporting facilities built as part of the Pier 14 project include a 20-track loaded-car yard, with standing room for 800 cars, which is flanked on each side by an 8-track empty yard, each with a 320-car capacity. There also are tandem car dumpers on each side of the pier, each capable of handling two cars simultaneously; two track scales, and new thawing facilities to expedite the handling of frozen coal during the winter.

The C. & O. formerly had two coal piers at Newport News. One of these—Pier 9—is now nearly 34 years old and is of the high-level type. This pier has a potential loading capacity of 6,000 tons an hour. The other pier, designated Pier 15, is of the so-called Lake type, and has a capacity of 2,000 tons an hour. This pier was built in 1930. The older structure has long been expensive to maintain and it is now in need of major repairs. In view of this, it is planned to abandon it in the near future, at which time the total loading capacity at Newport News will be reduced to 8,000 tons an hour. However, because of the high capacity of the new pier, there will be a gain of 2,000 tons an hour over the former capacity.

The new pier extends southward into the James river, a short distance above the point where that stream empties into Hampton Roads. The pier deck is 80 ft. wide and is of reinforced concrete, supported on precast 24-in. square concrete piles which vary in length up to 100 ft. Concrete for the deck, and for the piles which were cast in a yard nearby, was mixed at a batching plant on shore and was delivered to the forms by means of a Rex Pumpcrete machine.

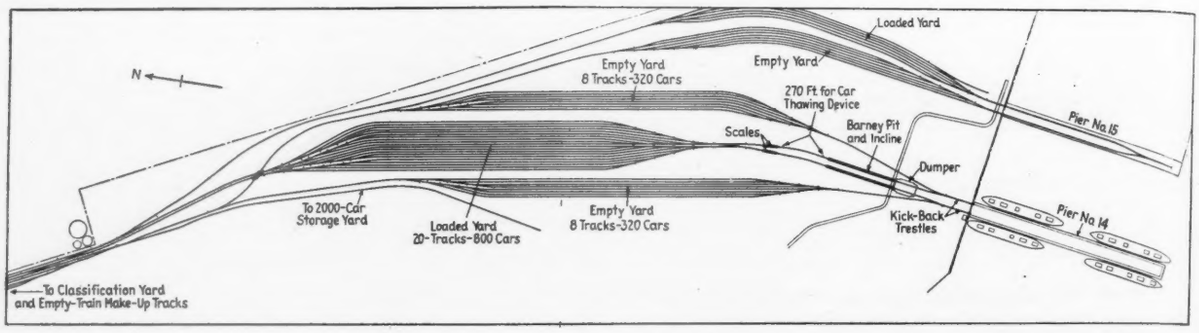
Concreting of the pile caps and of the deck proceeded directly behind the pile driving operations. Upon completion of the concrete work the pier was faced with a built-up fender system consisting of three rows of piles and heavy timbers, all of South American greenheart. The contract for the pier was held by the Tidewater Construction Company, of Norfolk, Va.

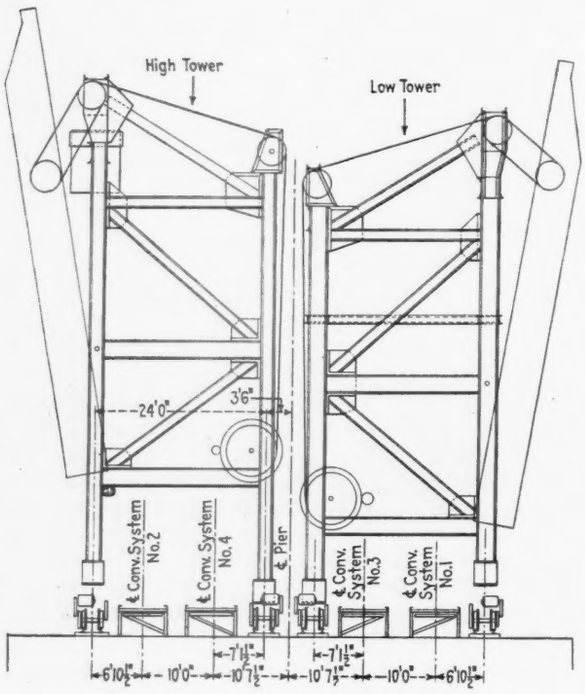
The deck supports four gantry tracks, the gage of each track being 2 ft. 6 in. These tracks are arranged in pairs—one pair on each side of the center line of the pier—with 24 ft. between centers of the tracks in each pair. These tracks provide runways for the traveling towers, two of which operate on each of the pairs of tracks. The ties for the gantry tracks are held in place by pointed steel dowels that were placed point up in the deck concrete when it was poured, protruding about 1½ in. above the deck. When the ties were placed on the dowels they were struck several heavy blows with a sledge to seat them firmly in place.

Two-Track Car Dumper

The car dumper is located 366 ft. inshore from the pier. Built by Link-Belt Company, of Chicago, this is a two-track unit, with two 58-ft. transfer and dumping tables on each track, each arranged to handle two hopper or gondola cars up to 60 ft. in length, or 120 ft. overall. The dumping tables are elevated 27.3 ft. above pier level and loaded cars are brought to this elevation up a steep incline, being propelled by cable-hauled pushing units, or "barneys," which operate in pits below each of the two incline tracks.

When the cars are properly spotted on the dumper tables, large hold-down clamps engage the top edges of the cars to secure them while they are inverted. Rota-





Above—The arrangement of the loaded and empty yards, the car-dumper and other facilities supporting Pier 14 is such as to permit maximum efficiency in the coal-loading operation

Left—The main conveyor belts are located between the gantry tracks supporting the traveling towers. A high and a low tower are provided on each side of the pier

tion of the cars is through 180 degrees about a horizontal, longitudinal axis.

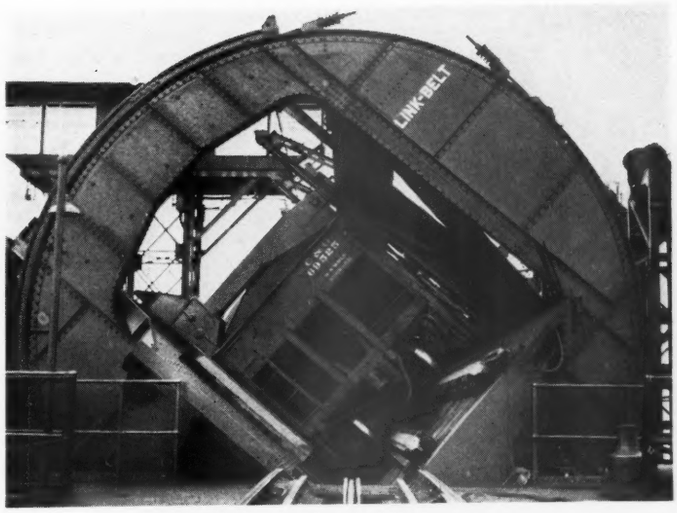
Beneath each of the dumper tables are two large hoppers, each with a capacity of 120 tons, into which the coal is dumped. Three spouts at the bottom of each hopper discharge coal onto the first unit of the belt conveyor system which handles the coal beyond this point. One such collecting belt is provided for each of the four hoppers.

The collecting belts are of 8-ply rubber and fabric construction and are 60 in. wide. They carry the coal toward the pier for distances ranging between 150 and 209 ft. and discharge it onto main conveyor belts—also four in number, or one for each traveling tower—each main belt being served by one collecting belt. The main belts are similar in construction to the collecting belts. The United States Rubber Company, the Goodyear Tire & Rubber Co., and the B. F. Goodrich Company furnished the fabric used in the conveyor belts, while the Link-Belt Company furnished and installed the conveyor system.

Each of the collecting belts is driven by a 50-hp. motor, while each main belt is driven by a 125-hp. motor and a 30-hp. motor in a tandem arrangement, the function of the smaller motors being to increase the driving traction and to reduce the necessary slack tension in the belts. All of the belt-driving motors are housed in a corrugated metal shelter near the shore end of the pier.

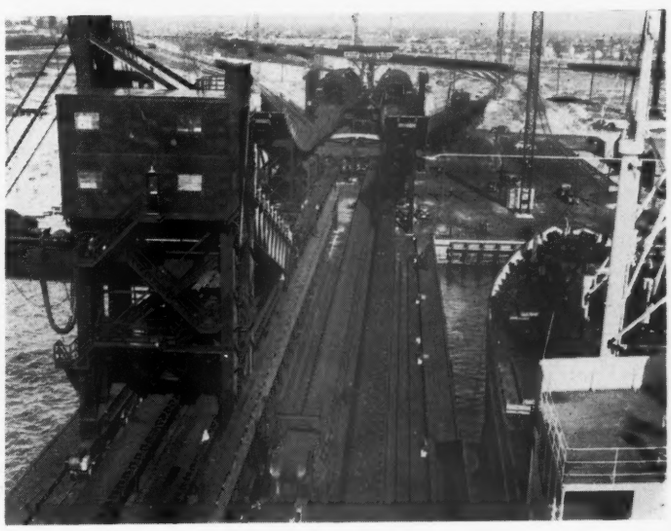
As already mentioned, the traveling towers are arranged in pairs on opposite sides of the pier. The towers are electrically propelled and ample clearance is provided beneath them on each side for two of the main belt conveyors. Fabricated and erected by the Alliance Machine Company, Alliance, Ohio, each tower embodies a long inclined belt conveyor, and a boom right-angle belt conveyor for moving the coal from the inclined conveyor, through a telescopic chute, into the hatches of ships. A prominent feature of each tower is the boom, 47 ft. long, which extends beyond the side of the pier and over the decks of ships alongside. The boom is pivoted at its inner end, and when in use may be raised and lowered through 20 degrees above and below the horizontal; it may also be moved in or out, at right angles to the pier, through a distance of 14 ft., giving considerable latitude when loading coal. When not in use the boom may be raised to an almost vertical position to clear the superstructure of ships maneuvering into position at the pier.

Directly at the foot of the inclined conveyor of each tower, the corresponding main belt passes over a tripper —a system of horizontal idler pulleys, attached to the steel framework supporting the inclined conveyor and arranged to travel with it. The loaded belt passes over the first of these idlers and, in so doing, discharges its coal onto the inclined conveyor. It then passes under a second idler pulley, located below the level of the first pulley and a few feet back toward the shore end of the pier from it, and then continues to the outer end of the pier to a fixed idler, from which it returns to the shore end once again. These trippers permit the towers to move to any position within their limits of travel on the



Top—The pier has four rotary dumpers placed on two tracks, with the pair on each track arranged in tandem. Cars are turned on side to empty contents into hoppers, and righted, all in 60 sec.

Center—From hoppers beneath the dumpers coal flows onto four conveyor belts that stretch the length of the pier. Each belt feeds one of four towers that deliver the coal to vessels moored alongside pier. Up to 1,500 tons of coal an hour can be handled by each belt and tower



Bottom—Each tower can move along the length of the pier and take coal from any point on its belt. A special tripper arrangement on each belt transfers the coal to an inclined belt leading to the top of the tower where it is diverted to another belt on a loading boom. Coal finally passes through telescopic chute into hold of vessel

pier without interfering with the movement of the corresponding belts.

The inclined belt of each tower conveyor system slopes up at an angle of 18 degrees in line with the main conveyor belt and discharges into a spiral chute which changes the direction of motion of the coal and causes it to move at right angles to the pier. The chute is designed to minimize degradation, or damage, to the better grades of coal.

At the lower end of the spiral chute the coal is delivered onto a metal apron conveyor on the boom, which, in turn, discharges into a vertical telescopic chute at the end of the boom, the chute extending well into the hold of the ship being loaded.

The final unit of the loading system is a mechanical trimmer, located at the lower end of the telescopic chute. This embodies a horizontal armor-clad metal belt conveyor, arranged to revolve horizontally through 360 degrees, which places the coal in the remote corners of the hatch being loaded. The two telescopic chutes on the north side of the pier are each equipped with a mechanical trimmer on one side of the chute and a baffle on the opposite side. This arrangement permits coal to flow in a normal way over the baffle without trimming, or, when necessary, it can be shifted instantly so that coal can be placed over the trimmer to be conveyed to various sections of the ship's hold. Any coal of prepared grades, or coal other than nut and slack that needs trimming and must be handled to avoid degradation, is either hand trimmed or will be moved for trimming over another type of conveyor that will not break the coal in any manner. All of the electric motors for moving the towers and for driving the conveyors were furnished by the General Electric Company.

Coal intended for handling over the pier at Newport News arrives at the terminal over the main line from the west, via Richmond, Va. Normally the loaded cars are taken directly to the main classification yard, located about 1½ mi. west of the pier area, where they are classified as to the "tide," or grade, of coal, and destination.

After being classified, loaded cars, destined for handling at Pier 14, are brought to the new loaded yard, where they are spotted and the hand brakes set. This

yard slopes toward the pier on a grade of one per cent. Later, the cars are cut off, one at a time, by releasing the brakes, and are allowed to roll to the south end of the yard.

At the south end, while still moving under their own momentum, they move onto one of two lead tracks which connect the loaded yard with the car dumper. Directly south of the yard is a double crossover between the lead tracks, and beyond the double crossover are two track scales, one for each lead. The crossover switches are remotely controlled from the scale house, thus enabling cars to be routed from one side of the yard to the opposite lead track, if necessary, for dumping. Weighing is done while the cars are in motion. A loud-speaker system in the loaded yard, connected with a microphone in the scale house, facilitates control of the movement of the loaded cars.

Car Thawing Device

While moving between the scales and the car dumper the cars pass through a thawing device installed in a 270-ft. stretch in each lead track. These car thawers are enclosed by high metal fences to confine the heat. It is expected this arrangement, which has a capacity of four cars at one time, will thaw the cars in about fifteen minutes.

The grade of the lead tracks levels at the foot of the incline leading to the dumper to bring the cars to a stop. Here they are coupled in pairs before being pushed to the dumping level by the barneys.

After each pair of cars are dumped, they are pushed from the dumper by the next pair of loaded cars arriving from the incline. The empties move to a kickback trestle serving each dumper and then, being reversed, move north into one of the two empty yards. The empty yards slope down to the north of a grade of 0.4 per cent, so that the empty cars roll to the extreme ends of the yards with ease.

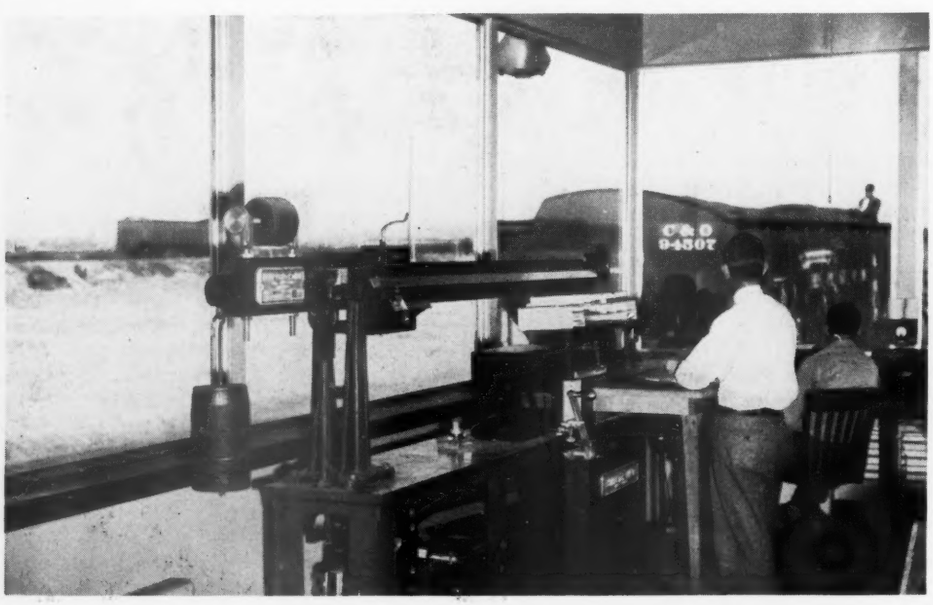
Both walkie-talkie and carrier telephone communication are employed to advantage in the ship loading operation. Portable telephones which can be plugged into sockets at the base of each movable tower enable men observing the distribution of coal in the holds of ships to communicate with the tower operators and the operators of the car dumpers. Thus maximum loading can be accomplished in each hold or the equipment may be brought to a stop promptly in the case of an emergency. Walkie-talkie radios at the pier supplement the telephone system. The stationary sets were furnished by the Mobile Radio Division of the Bendix Aviation Corporation, Towson, Md. General Electric furnished the carrier telephone system.

Six classifications are made as the empties move off the kick-back trestles, namely, cars belonging to the Berwind-White Coal Corporation, other foreign cars, cripples, C.&O. 50-ton hoppers, C.&O. 70-ton hoppers, and "kickoffs," or cars that were sent to the dumpers but were not dumped because the vessel did not have capacity to take them.

The lead track at the north end of the easterly empty yard makes a wide curve to the west, passes under the main lead track of the loaded yard, and then joins the north lead of the westerly empty yard. Thus, all empty cars are brought together to facilitate making up trains to return them to the coal fields.

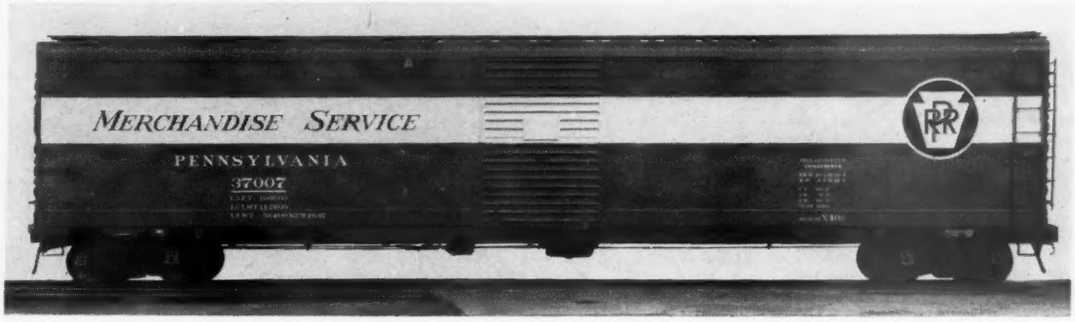
In constructing the new loaded and empty yards, and their approaches, it was necessary to make a fill 2,000 ft. long, 550 ft. wide, and as much as 20 ft. high. This required the placing of about 500,000 cu. yd. of material, all of which was dredged from the river bed adjacent to Pier 14 in preparing 37-ft. channels, 350 ft. wide, on each side of the pier to permit the docking of ships. The dredging was done by the Norfolk Dredging Company, Norfolk, Va.

The project was planned and executed under the general direction of the engineering department of the C. & O., Richmond, Va.



Every carload of coal is weighed on its way to the pier. Two 400-ton track scales are provided, one on each side of a modern scale house, the interior of which is shown here

Pennsylvania Inaugurates "Keystone" Service



Over 1,000 distinctively painted box cars, many of them equipped with special trucks and damage-prevention devices, will be assigned to "Keystone" merchandise service between stations on the Pennsylvania's own lines

Faster and more regular schedules; prompt unloading, with week-end holdovers eliminated; direct loading through zone stations; extended rail-truck coordination; special equipment and shippers' service bureaus feature new plan for handling l.c.l. freight

Keystone,"—a "complete, modern, expedited service" designed to meet the needs of merchandise shippers, is the product of a 28-point program just adopted by the Pennsylvania "to bring about prompt, regular and efficient handling of l.c.l. traffic and to eliminate cause for service complaints."

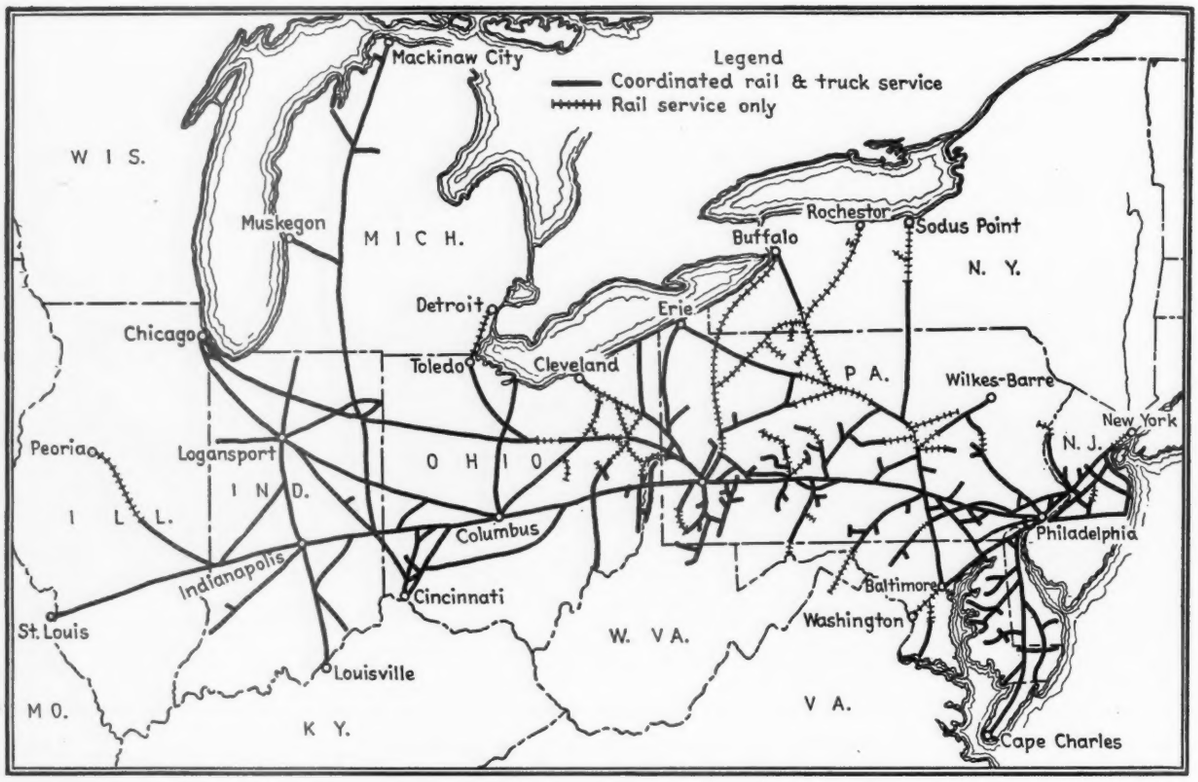
As briefly outlined in the *Railway Age* of February 4, page 56, the new program covers every facet of l.c.l. service, from pick-up at the shipper's platform to delivery at the consignee's door. Combining methods successfully used prior to World War II with postwar innovations, it involves faster scheduling; carefully coordinated truck service; improved car and container equipment; damage prevention devices; mechanized handling at stations; streamlined accounting; better merchandising, with emphasis on service to shippers, and training of employees in courtesy to patrons and expeditious handling of merchandise freight.

Emphasis on Speed and Dependability

From the shipper's standpoint, perhaps the most important feature of the new program is its emphasis on speed and regularity of movement—goals which will be obtained primarily through careful system-wide scheduling of merchandise cars and containers, and special attention to direct loading to keep to a minimum the transfer and rehandling of shipments. It is expected that delivery between all key points on the railroad will be on a "no later than third morning" basis.

To effect this "Keystone" service, merchandise cars

Large containers, transported five to a car, will provide "equivalent to box car" service between points where traffic does not require full cars. As shown above, the containers can be moved from car to car by special cranes at transfer points



Trucks, operated in line-haul service in place of local freight trains, or in extended pick-up and delivery service, collect and deliver l.c.l. freight over nearly 9,000 route-miles daily—almost 87 per cent of the entire Pennsylvania system

between P.R.R. stations are being released on a "regardless-of-quantity" basis on Mondays, Tuesdays and Wednesdays, and on a "sailing day" basis thereafter to provide for arrival on days when their destination stations are working. Cars from New York to Philadelphia, for example, are "sailed" each day Monday through Friday, inclusive, the contents of the Monday-through-Thursday cars being delivered the following mornings and the Friday car being unloaded at Philadelphia on Saturday for delivery the following Monday morning. Between New York and Chicago, where the schedule provides third-morning delivery, cars "sail" Monday and Tuesday, for delivery the same week; on Wednesday, for Saturday unloading and Monday delivery, and on Friday for Monday unloading and delivery. Cars may also be forwarded on Thursday, if the amount of freight justifies; otherwise they will be held until Friday, since a car leaving New York on Thursday will normally reach Chicago on Sunday, when the receiving station would not be working.

Further to eliminate weekend holdovers of cars, insure maintenance of schedules and guarantee regular delivery, 24 stations and transfers are now working six days a week, including Saturdays, and six are on a seven-day week. Stations working on Saturdays are to unload all available cars on that day, and to load trucks for early Monday delivery, to insure that all freight on hand is ready for the earliest possible delivery on Mondays.

Additional stations will be opened on Saturdays or Sundays, or both, if necessary, depending on traffic requirements.

Cars destined to foreign lines are to be released daily when tonnage warrants, and three times weekly regardless of tonnage. No cars are to be held over the weekend.

"Zone Stations" the Nerve Centers

To maintain these schedules, and to handle l.c.l. freight with the greatest possible efficiency and at the lowest possible cost, special empasis is being placed on avoiding rehandling or transfer of freight in transit; the plan is to load freight in its initial movement so as to reach its destination with a minimum number of transfers.

To accomplish this the Pennsylvania has designated 139 of the principal cities and towns on its lines as "zone stations," each of which also serves a surrounding area.

These zone stations likewise serve as transfer points; by loading freight between zone stations instead of to transfer stations, a considerable amount receives the benefit of movement in a direct car or container, and the number of exclusive transfer operations has been reduced to two.

Loading arrangements are constantly being revised to reduce transfer operations and to meet requirements for expedited and economical service, but the concentration of traffic at zone stations is the basis for direct des-

tination loading in box cars or containers. Under these arrangements, the number of times that each ton of l.c.l. freight is transferred is being reduced to new low figures; in 1949 it ranged from 0.39 to 0.53, meaning that for each revenue ton transported, from 0.39 to 0.53 tons were transferred.

A program is also being worked out to reduce the number of interchange points with other railroads, to reduce costs for all companies involved by increasing direct loading and movement and reducing transfers.

Upwards of 2,000 through car lines have been established between key points on the Pennsylvania system alone. Where tonnage warrants, these will be served by full cars, 45, 50 and 60 ft. in length. Between smaller stations, where tonnage does not ordinarily justify use of a full car, the road will provide "equivalent to box car" service with its 3,000 steel merchandise containers, 7 ft. by 8 ft. by 9 ft., each capable of carrying 12,000 lb. of freight, which are transported on special flat cars, five containers to a car, and transferred from car to car by special equipment.

Will Use Trucks "In Their Proper Place"

While line-haul movement of l.c.l. freight will continue to be made by rail with the same general distribution to areas surrounding zone stations by short-haul trucks operating in substitution for local or way freight trains in coordinated service—which has been described as "efficient use of trucks in their proper place"—a completely new form of service has been established with pick-up and delivery trucks operating directly between zone stations and shippers and receivers in adjacent areas. This is in effect a combination of so-called substituted motor service and pick-up and delivery service.

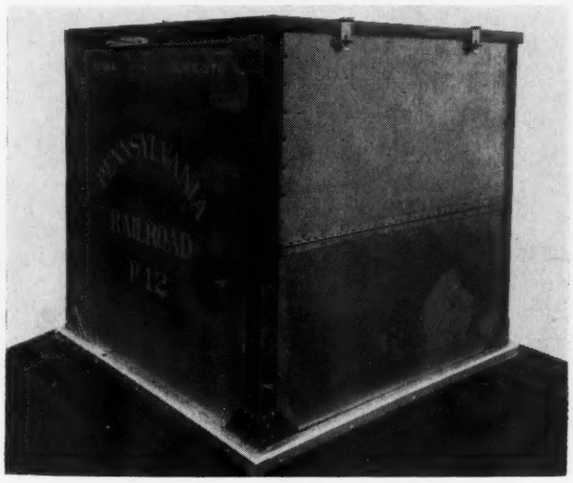
The Pennsylvania's short-haul truck routes, established progressively since the early 1920's, now number 225 and cover 8,981 route mi., or 86.9 per cent of its total track mileage, as shown by the accompanying map. They have been established for the handling of l.c.l. freight wherever "there is something to be gained thereby, usually speed or economy." Where they are not operating, it is because local freight trains perform necessary switching, or because the railroad has not yet been able to justify inauguration of truck routes on the basis of economies or other advantages anticipated from them. These line-haul truck routes, as well as pick-up and delivery services, will range outward from the 139 zone stations.

In either case, so far as the shipper is concerned, the results will be much the same—substantially better service. Trucks operating in substituted service are to be scheduled so that as much inbound traffic as possible will be delivered on the day it is unloaded from cars at the zone stations, and so that outbound traffic from local line stations arrives at the zone stations in time to be forwarded in cars released the same day.

Such direct truck delivery from zone stations is in many cases saving a full day on inbound freight, as compared with the time required to transfer freight from a through car to a local freight peddler car, move

Right—To eliminate shifting and crushing of freight in transit, many of the special merchandise cars are equipped with steel swinging gates and shelves, which divide the cars into two tiers and a number of comparatively small longitudinal compartments

Below—Small caster-mounted containers, built of aluminum-covered plywood, with folding tops and half-drop sides, will be used for shipments consisting of small packages, to reduce re-handling and minimize danger of loss and damage. Each container, 4 ft. by 4 ft. by 4 ft., will hold up to 1,500 lb.



All interline merchandise cars, and any others not specially painted, will be side-carded with this 4-in. by 6-in. blue tag, to assist employees in recognizing them and expediting their movement

that car to the local station in a way freight train, and unload and deliver the merchandise at the local point. Similarly, there are many cases where an equivalent amount of time is saved on outbound movements by substitution of trucks for local freight trains. In brief, shippers in outlying territory now have the type of service heretofore available only to shippers in cities designated as zone stations.

Special Equipment Provided

Substantially similar arrangements are in effect for scheduling of pick-up and delivery trucks, but in many instances their former area of operations has been greatly expanded. In reasonable areas surrounding zone stations, for example, movement of l.c.l. freight by cars or substituted service motor equipment to and from zone stations has been discontinued and collection and delivery of traffic is being performed by motor equipment operating in pick-up and delivery service to and from the zone stations. This extension of pick-up and delivery service goes, in some cases, as far as 25 or 30 mi. from a zone station. It gives shippers within that radius—like those served by trucks substituted for local freight trains—the same service advantages enjoyed by shippers in zone cities; and offers them a potential saving of from one to two days on each l.c.l. shipment through extended truck service alone, regardless of savings resulting from other service improvements.

L.c.l. shipments which both originate and terminate on the Pennsylvania's own lines will move for the most part in equipment specially designed for and specially assigned to merchandise service.

In addition to the containers previously mentioned, the road has set aside for merchandise freight something over 1,000 box cars, all distinctively painted with aluminum bands lengthwise of the car bodies.

"Ride Control" Trucks

To minimize damage to lading, over 500 of these special merchandise cars have been equipped with American Steel Foundries "ride control" trucks, with 3-13/16 in. spring travel, built-in snubbers, high-speed draft gear and steel wheels. All of these cars have also been equipped with upper and lower swinging gates and shelves which swing from the top of one bottom gate to the next, thus dividing the car into comparatively small sections to prevent shifting or crushing of freight in transit.

This rack and shelf system divides a 60-ft. car into 20 compartments—10 vertical compartments, each divided horizontally into two tiers. A 50-ft. car is similarly divided into two tiers of eight compartments each. The system, Pennsylvania officers say, "meets all objectives" with respect to damage prevention.

To avoid checking and rehandling en route of shipments consisting of a number of small packages, and also to prevent damage to such packages, the road has provided a number of small containers, 4 ft. by 4 ft. by 4 ft., with a capacity of 1,500 lb. Built of aluminum-covered plywood, with half of one side dropping down and the top folding over for convenience in loading and unloading, these may be moved either on their own casters or on fork-lift trucks.

"This Car Must Not Be Delayed"

All merchandise cars not specially painted, including those received from or destined to connecting lines, will be specially side-carded with a blue tag, 4 in. by 6 in., bearing in red the P.R.R.'s keystone emblem and, in black, the words "L.C.L. Merchandise—This Car Must Not Be Delayed." Space is also provided to fill in the point of origin, destination and shipping date. These tags are intended to assist employees in recognizing merchandise cars, and thus make it easier to move them over the road and through yards in the shortest possible time.

To insure equally fast and careful handling into and out of cars, mechanization of freight stations is being rapidly extended. This is a continuing process, but the latest available figures indicate that the road now has in operation at various points at least 138 power operated and 116 hand operated lift trucks; over 3,000 Colson jacks and skids; some 400 battery or gas-powered flat trucks, on which the handler rides with the freight, which take the place of hand trucks; 209 platform tractors and nearly 5,000 trailers; and a number of three-deck, four-wheel trucks, gravity and power ball-bearing

The Pennsylvania's Eleventh Street freight station, Pittsburgh, Pa., "ready to go" on the railroad's "Keystone" service for l.c.l. freight. Steadily increasing mechanization of freight stations is an important feature of the P. R. R.'s new program for faster, more efficient and more economical handling of merchandise freight, which was announced in the *Railway Age* of February 4, page 56

roller conveyors, motor scooters for supervisors, watchmen and messengers, dolly trucks, jacks, etc.

The "streamlining" process has even been carried into l.c.l. accounting procedures, to reduce and simplify clerical work incident to handling the traffic. The general principle here is that when a document must be prepared it must be used for as many purposes as possible. Some of the major simplifications accomplished in line with this principle are:

"Streamlined" Accounting

L.c.l. traffic local to the P.R.R. is moved on the shipping order prepared by the shipper as a carbon copy of his bill of lading, with forwarding station records put on micro-film.

In smaller communities, consignees receipt for, and pay for, freight on the basis of a "report of waybills received" prepared for the auditor, rather than on individually prepared freight bills.

In larger cities, freight bills are provided by photostating the document on which the shipment moved, with required copies being prepared from this photostat by light penetration on sensitized paper.

At certain larger stations, Zone Waybilling and Accounting Bureaus have been established to consolidate and perform mechanically most of the clerical work formerly done manually at outlying smaller stations. (See *Railway Age* of September 17, 1949, page 90, for an account of such an operation in the Philadelphia area.)

Punch cards and tabulating equipment, added to the zone consolidation arrangements, show promise of reducing present costs by as much as 30 per cent.

Transfer records on l.c.l. freight are maintained by "ballots" used to make sure the freight gets in the correct car, and subsequently filed by inbound car number to provide an absolute transfer and tracing record on each shipment so handled.

Sincerely convinced that its new program represents a valuable service to l.c.l. shippers, the Pennsylvania intends also to see that such shippers know about it, and have every opportunity to use it to the best advantage. To that end, in addition to the usual advertising channels, traffic merchandise representation is to be augmented at selected points, and Merchandise Service Bureaus are to be restored to an operating basis in 50 key cities "where they will meet requirements of the public." Merchandise service pamphlets, including schedules, and class rate pamphlets, are being reissued.

"Selling" the Employees

Every effort is being made, also, to acquaint employees with the nature of the program, of its importance to them as a source of more business for their company, and of their importance in making it work.

"To develop a common understanding of our service program, and of what we must do to make it effective," meetings were held during January in 12 key cities on the system. These will be followed later by similar meetings at other points until, eventually, they have been attended by all employees concerned—operating, traffic, station, mechanical, and trucking. Special emphasis is being placed on "utmost courtesy and cooperation with patrons," and on appreciation for inquiries made and traffic given, in personal contacts, telephone conversations, and correspondence.

The aim of "Keystone" service, according to officers of the railroad, is "overall improvement of l.c.l. service." Already, they say, "service has stepped up tremendously." And if interest and enthusiasm on the part of the responsible executives are matched by similar performance all along the line, it's due to get even better.

BANGOR & AROOSTOOK

Convinced that retrenchment will serve only to shrivel up the industry; that the railroads' forte is in mass transportation; and that, even with a good operating ratio, a good net can come only out of a large gross, Mr. Hutchins has employed all the tactics at his command to hold the B. & A.'s traffic on the rails.

Potatoes will account for about 40 per cent of the B. & A.'s 1949 tonnage, and 50 per cent of its revenues. In years past, the road didn't have to battle so much as now to hold this major source of livelihood. Potatoes move in the winter, and Maine's highways, prewar, weren't much to brag about after the first snowfall. Those conditions no longer apply. The state's plows are clearing the highway network as fast as the Bangor & Aroostook's flangers are clearing its tracks.

Competition Came Late

Mr. Hutchins knows that his railroad has been fortunate in having the full force of truck competition come as late as it has. Because much of the traffic is still on the rails, he feels that there is an opportunity to keep it there. The B. & A. carried 75.4 per cent of Maine's 1948-1949 potato crop. About 18.8 per cent moved by the Aroostook Valley and the Canadian Pacific. Trucks took only 5.8 per cent, but they are expected to move a much bigger slice of the current 1949-1950 season's tonnage.

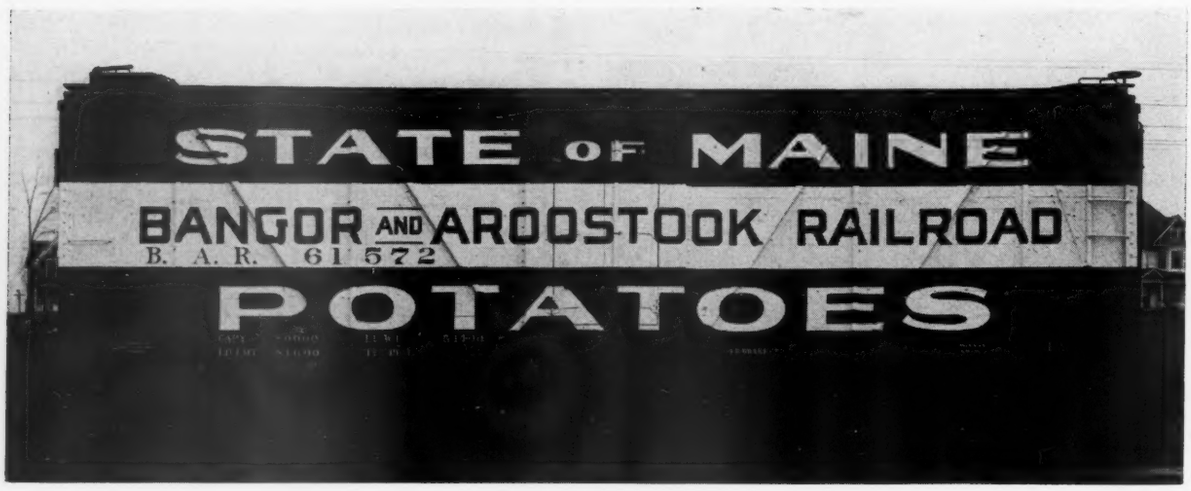
To stem this attrition, the Bangor & Aroostook, along with its New England connections, has slashed by 18 per cent the rates on potatoes between Aroostook county points and New York. In cooperation with the Maine Central, the Boston & Maine and the New York, New Haven & Hartford, the scheduled delivery of potatoes to the New York markets has been cut from fourth morning to third. To do its share of the job, the B. & A. had:

(1) to classify straight B. & M. blocks at its Oakfield yard, 115 mi. north of the Maine Central connection at Northern Maine Junction, and

(2) to cut the length of trains from 175 cars—with three-unit Diesels—to 125 cars, with two-unit Diesels, and run more trains. This measure, though costly from one point of view, nevertheless spreads the arrivals at Oakfield and keeps the yard more fluid. The net result is that potato trains reach the Maine Central, already blocked for the B. & M., about three hours earlier than heretofore.

Mr. Hutchins feels that the refrigerator car supply *must* be adequate at all times if the potato traffic is to stay on the railroad. In 1948, there were more reefers available than the total requirements, but so far as individual shippers' requests were concerned, it was not always possible to furnish cars when needed. In 1949, the B. & A. entered into a contractual agreement with the Merchants Despatch Transportation whereby 3,000 cars were boarded "return to B. & A. when empty." For this car supply insurance, the B. & A. has to guarantee earnings of $2.50 a car day, which is fair enough when the cars keep moving, but costly if traffic slumps.

Because the reefers are needed for the winter months only, and then for heating and not refrigeration, the B. & A. has experimented with the insulation of standard box cars. Five such cars are in service. If they



SET TO BEAT THE COMPETITION

prove satisfactory, more will be built. They will be available for newsprint paper and other Class A loadings the year 'round, and suitable for the potato traffic in the winter. There isn't any wasted space for ice that's never required.

One thing is sure—no Aroostook country potato grower is going to ship his spuds over the highway because the Bangor didn't try to get him cars.

More ingenuity was required by the B. & A.. to keep rail service attractive to the pulpwood shippers, whose freight makes up about 20 per cent of its tonnage, and 7 per cent of its revenues. In 1947 a special side-clearing pulpwood car was designed jointly by the railroad and the Great Northern Paper Company—largest newsprint manufacturer in the United States. An unloading job that used to take three or four men two hours was cut to four minutes. A hundred of these cars were built in 1947, and a hundred more in 1949. The quickened unloading time results in so much better turn-around that the 100 special cars are able to do the

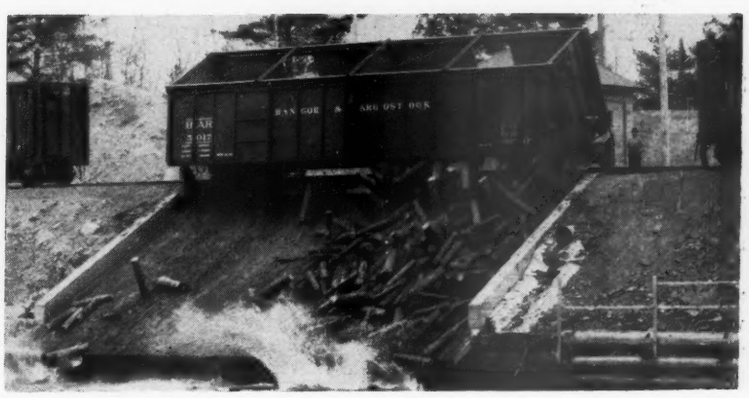
On modernization, President Hutchins says: "If it returns 15 per cent, and we have the money, we'll buy it"

"The railroad industry . . . is at the point of decision as to whether to crawl into its shell by reducing service to meet reduced volume, or whether to go out aggressively after the business and correct the basic weaknesses of railroads versus other types of transportation." That was one of the statements, and the keynote of, a provocative address, "Let's Look at Competition Realistically," to the New England Railroad Club last October by Curtis M. Hutchins, 41-yr. old president of the Bangor & Aroostook. Mr. Hutchins came to the 602-mi. "potato railroad" as its chief executive in April, 1948. His background was not one of railroading.

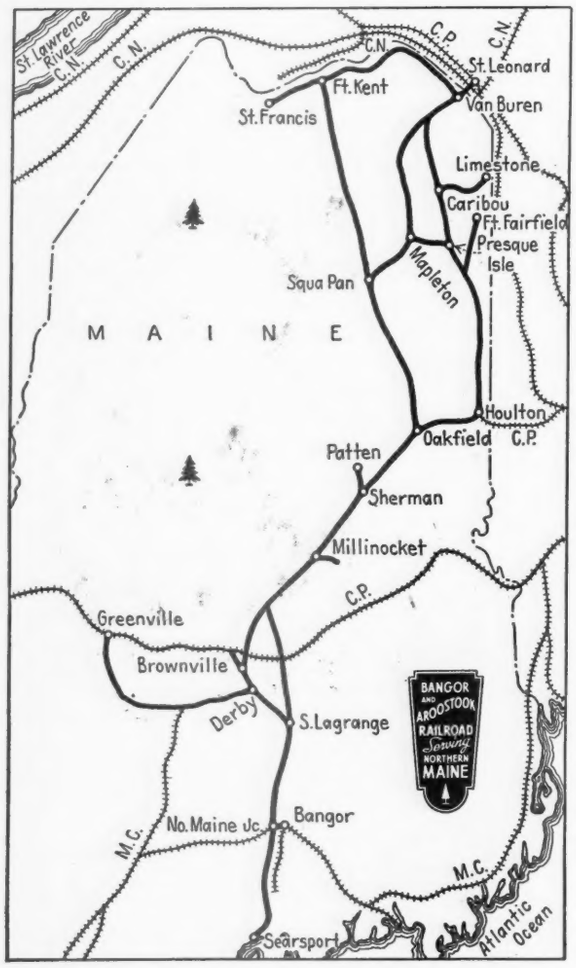
***Railway Age* decided to find out what this newcomer in the industry was doing to translate his convictions into action, and one of its transportation editors has been up in the Pine Tree state to find out.**

Above right—The Bangor & Aroostook is 70 per cent Dieselized in the winter—100 per cent Dieselized in the summer. The "Potatoland," takes fuel oil in the shadow of a modern coaling facility at Oakfield

Facing page—Five box cars have been insulated to handle potato traffic. The bunker—at one end only—is for heaters, not ice. The refrigerator doors can be removed when the car is used for other loadings



Right—One hundred side-clearing pulpwood cars do the work of 180 standard rack cars. Unloading time is reduced from hours to minutes



The 602-mi. Bangor & Aroostook serves Northern Maine. The principal interchange is with the Maine Central, at Northern Maine Junction. Connections are made also with the Canadian Pacific and the Canadian National

transportation job formerly done by 180 standard rack cars.

Petroleum and fertilizer rates, northbound from Searsport, have been pared down substantially. Searsport, at the road's southern extremity, is a snug, tidewater port which served the nation well in war years as a major shipping point for ammunition and military supplies. In peacetime, the B. & A.'s 800-ft. dock and that of an adjacent coal company, are used chiefly for handling coal, fertilizer and petroleum products, inbound. Potatoes and forest products move out, some of them after storage in the dock's ample warehousing space. Promotion of Searsport's assets should serve to make this little ice-free port a still more important source of commerce for northern Maine and its railroad.

Summer operations on the Bangor are almost entirely Dieselized, but when peak traffic is reached in the winter months, about 30 per cent of the tonnage is moved by steam. Mr. Hutchins would buy the additional Diesel horsepower needed to go all-Diesel if he could find somebody with a summer peak who would work a seasonal "swap" with him. He's still looking.

At the end of 1949, the following motive power was on the roster:

	Diesel (units)	Steam
Passenger	2	6
Freight	12	41
Road Switching	8	8*
Yard	4	6
	26	61

* Freight or passenger

The B. & A.'s enthusiasm for the Diesel needs no further explanation than a statement of fuel costs: coal, on the dock at Searsport, about $12 a ton; Diesel fuel oil, in tank cars at Northern Maine Junction, about 10 cents a gallon.

A relatively large inventory of spare parts is required for the 26 Diesels. The Bangor & Aroostook is currently working with the connecting Maine Central on the feasibility of a joint store of Diesel parts, so that the inventory of each road can be lessened materially.

Space radio to equip the entire Southern division main line, from Oakfield to Northern Maine Junction, will be in use by March, 1950. End-to-end and train-to-train communication, through six fixed stations, will be provided. The cost of the project is $60,000. The calculable savings are $21,000 annually. The economies are based on studies which indicate an average saving of one-half hour a day per train over the road, and the virtual elimination of broken drawbars.

Meet the President

Each of the Bangor & Aroostook's 1,400 employees, from the section hand at Squa Pan to the yard clerk at Searsport, has had, or soon will have, the opportunity of a personal introduction to Mr. Hutchins and the official family at Bangor. Once or twice a month, lots are drawn over the system to select groups of 40 to 45 employees. The lucky ones get an expense-paid trip to Bangor. They get to talk to Mr. President for at least an hour—or longer, if they ask enough questions. "We want to show them that the brass isn't horned," Mr. Hutchins says. "While we have different jobs, we are all working for the same purpose."

An employee suggestion system was reinstated last April, administered by a committee composed half of junior executives and half of union representatives. The committee meets monthly to act on suggestions which

Postwar years have been, by a number of indices, the best in the last two decades for the Bangor & Aroostook

Year	Gross Operating Revenues (000)	Fixed Charges (000)	Net Income (000)	Long Term Debt (000)	Operating Ratio	Gross Ton-mi. Per Freight Train-hr.
1929..	$8,136	$936	$1,398	$19,726	65.6	
1934..	6,168	784	947	18,200	63.7	
1939..	5,119	772	216	18,046	74.3	20,335
1944..	10,025	568	974	13,851	60.5	20,506
1945..	10,512	548	747	14,053	73.9	19,437
1946..	10,169	542	454	13,921	88.6	19,373
1947..	12,136	552	1,165	14,437	73.7	22,156
1948..	15,540	557	2,384	16,616	64.9	23,541
1949..	12,997	586	1,303	15,886	69.2*	24,128

*Year ending 11-30-49.

have been reviewed by the department heads concerned, and cash awards are paid for ideas that are accepted.

The "potato railroad" provides a good basic passenger service through Northern Maine. The "Aroostook Flyer" and the "Potatoland" make up a double-daily operation between Bangor and Van Buren, 236 mi. The "Flyer" carries a Boston coach—an innovation of last October 31—and the "Potatoland" carries a sleeping car to and from Boston. There is a connecting passenger train at Oakfield for Ashland and Fort Kent, and a number of branch-line mixed train services. The highway division of the railroad augments rail service with bus transportation. All four of the main-line passenger trains provide meal service. By the expedient of a limited-selection menu—but a good one—one man in the kitchen and a hostess waiting tables, the B. & A. has been able to maintain meal service on its trains without too unfavorable an operating ratio. In fact, in October, 1949, there was a dining and buffet *net* of $90.

The B. & A. went along with other Eastern carriers on the recent 12½ cent passenger fare increase only on interstate rates. Within Maine, one-way fares were left unchanged, and a two-day round-trip ticket at the one-way fare plus 15 per cent was added experimentally until January 14, and recently extended to April 14.

The passenger traffic department is working with the superintendents of local schools to arrange short railroad trips for school children on the streamlined coaches of its regular trains—either from their home towns to a meet point, or with return from a nearby point by a B. & A. bus.

Fading Financial Threat

Like the Sword of Damocles, July 1, 1951, has hovered over the corporate existence of the Bangor & Aroostook. On that date, funded debt exceeding $12 million is due to mature. But on December 6, 1949, at hearings in Boston, Mass., all major bondholders, including the Reconstruction Finance Corporation, agreed to a plan for extension of the maturity date, under the provisions of the so-called Mahaffie Act, and readjustment of the interest rates. Under the new plan, $8,665,000 of consolidated refunding mortgage bonds will be extended 25 years, and the interest rate increased from 4 to 4½ per cent. Collateral trust 4 per cent bonds outstanding in the amount of $3,600,000, all held by the R.F.C., would, under the proposed plan, be reduced by payment at par of $600,000 of the bonds. The remainder would be extended 10 years, at the same interest rate, but with a sinking fund whereby—if earnings are satisfactory—the debt would be paid off in 10 years. The total funded debt of the company would thereby be reduced 35 per cent under that now obtaining. I.C.C. approval is awaited.

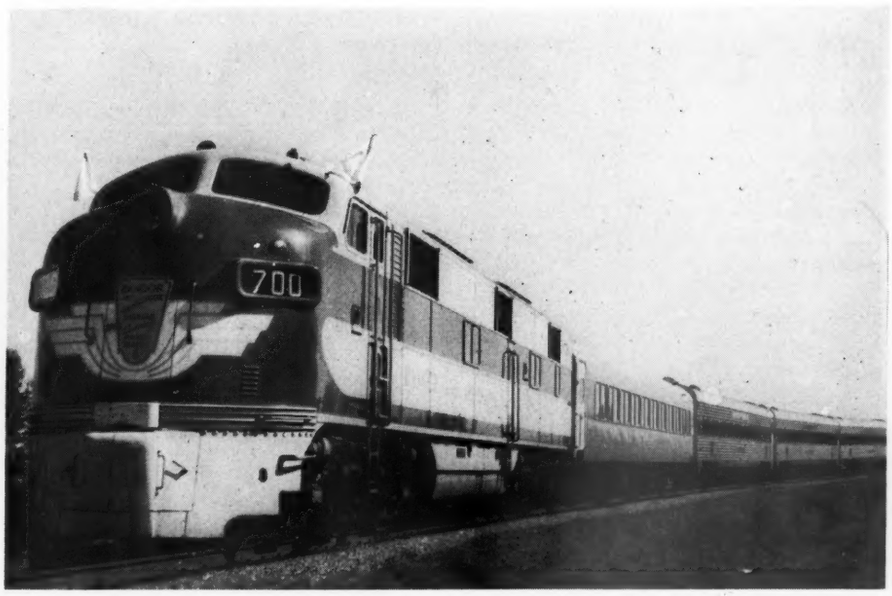
More Modernization

Six out of seven manually operated crossing gates come out this year. With the 40-hr. week, short-arm automatic gates are expected to return 30 per cent on the investment. Highway department plans may call for changes on the seventh crossing, or else it will be abandoned.

On-track tie tampers had been avoided on an old theory that they wouldn't work with track laid with cedar ties—native wood which is used on much of the road—because of the irregularity in the size and shapes of the ties and the lack of uniformity in the crib spaces. Actual trials proved this notion to be unfounded and the purchase of one has been recommended.

The latest experiment is with Scotchlite blades for semaphore signals at isolated points. If the lamp fails, the engine headlight, reflecting on the paddle, makes the signal "stand out like a sore thumb."

Mr. Hutchins isn't overlooking anything.



This passenger extra is made up of three new lightweight coaches, and one of nine purchased in the late Thirties

Canadian Roads Enjoy Heavy Montreal—Toronto

More than 50 cars of merchandise freight traffic move locally between Montreal, Que., and Toronto, Ont., in both directions, each weekday night. These are in addition to another 50 or so cars which move between these points with transfer freight for or from points beyond the two cities. The volume of this traffic—which is measured in carloads averaging from 12 to 17 tons, despite the usual offerings of lamp shades and bed springs—appears to be at least equal to that currently moving between any two U. S. cities, regardless of size or distance. Montreal and Toronto, with metropolitan populations of 1,139,921 and 900,491, respectively, are connected by a system of modern all-weather highways. Although the 335-mi. run is a "natural" for the truckers, the Canadian National and the Canadian Pacific have been able to maintain a lion's share of the total intercity traffic. The volume now moving is about the same as it was prewar.

Chicken First, or the Egg?

The question comes to mind: Do the railways get the volume because they give a dependable first-morning delivery on this long hop, or are they able to give this kind of service because they get the volume? Doubtless, the truth partakes of a little of each, but it is obvious that the volume would not stay with the rails if the two roads failed to maintain the regularity of their transportation service—a careful job of coordinating pick-up, freighthouse handling, over-the-road movement and delivery.

Montreal-Toronto freight is handled in C. N. R. No. 495 and C. P. R. No. 905. Closing time for both trains is late afternoon. Both trains make the long run in approximately 10 hr., spending about 30 min. in each of two intermediate yards. From Toronto to Montreal, C. N. R. No. 444 and C. P. R. No. 910 make similar runs. The Canadian Pacific waybills are transmitted by Teletype and Canadian National bills are telephoned through to the destination station before midnight each night, so that this information is on hand at the receiving terminal about seven hours prior to the actual placement of the cars. Both roads work small forces throughout the night, loading delivery trailer trucks which are parked overnight at the station, so that the platforms are clear for the morning arrival of the Montreal or Toronto freight.

Both the Canadian National and the Canadian Pacific have adopted a system to shorten the length of hauls between trucks and freight cars. At the C.P.R.'s

The new outbound shed at Bonaventure station, Montreal, on the Canadian National, provides adequate driveway space for pick-up and delivery trucks

L. C. L. Traffic on Dependable Overnighters

eight-track, 160-car Simcoe Street station at Toronto, for example, the outbound platform is divided into four sections.

As the pick-up driver gathers freight, he loads it in his truck according to these four sections. At the freight station, he calls at each of the four sections, and the freight for each is then moved across the platform, instead of down it, to the outbound cars. The reverse procedure is employed for inbound traffic in the morning; that is, the trucks call at each section for freight from nearby cars. While this procedure takes more driveway space, if congestion is to be avoided, the C.P.R. has found it of sufficient merit to have the area paved between the tracks of an adjacent team track. It is planned eventually to relocate the track entirely to give added driveway space.

New C.N.R. Freight Station

A new, modern freight terminal is now being built by the Canadian National in the area west of the old Bonaventure passenger station in Montreal. A 2,000-ft. by 50-ft. shed for inbound freight is being constructed 70 feet from the line of the street to give a clear artery for vehicular traffic. The new shed for outbound freight traffic will be 1,000 ft. by 40 ft. Teamways 70 ft. wide will be opened through the terminal on the south side to accommodate large motor trucks. Many industries in the area are not served by industrial spur tracks, and the inability to use modern conveyances satisfactorily at the old terminal was a source of concern to shippers and the railway.

The freight stations of both roads are equipped with fork-lift trucks and other mechanized equipment for handling unit, or palletized loads. The pick-up and delivery service is rendered by the express company affiliates of the respective roads. There is no regular forwarder service between the two points, apparently because the operators of such a service would be unable to better the existing l.c.l. service.

Truck rates generally had been equal to rail rates between the two cities, but the truck lines failed to apply an 8 per cent interim increase which the Canadian railroads were granted in September, 1949. Although the railroads have lost some volume to the trucks since this rate disparity developed, it is the consensus of those close to the Montreal-Toronto merchandise operation that the heavy volume which the railroads have been able to hold is very directly related to the consistent, reliable first-morning service.

Canadian Pacific merchandise freight No. 905 makes the 335-mi. run from Montreal to Toronto in about 10 hr. Canadian National No. 495 makes a similar run. Both roads offer dependable first-morning delivery on l.c.l. moving between the two cities

Guide Lines of the New British Rate Pattern

By G. LLOYD WILSON

Chairman, Transportation and Utilities Department
Wharton School of Finance and Commerce
University of Pennsylvania

Carriers of all kinds and shippers of all commodities in Great Britain and in the United States are under pressure to find rates which will move traffic, meet competition, and earn adequate revenue. The writer believes there are lessons to be learned and suggestions worth examining in the British program for a wholesale alteration of the rate pattern, the outline of which is now available and presented here. The problem of transportation service pricing is one of greatest urgency in both countries. Its solution calls for critical examination of every idea and for bold action once the appropriate course has been decided upon.

The British Transport Act placed upon the British Transport Commission the responsibility of working out and putting into effect a new pattern of rates and charges for transportation services by railway, inland waterways and long-distance highway vehicles. The act provided that the "charges scheme" should be formulated by the Transport Commission and submitted to the Transport Tribunal for confirmation within two years from the date of passage of the Transport Act, which would have been August 6, 1949.[1] Subsequently a postponement was ordered by the minister of transport so that the plan will probably be devised and submitted to the Tribunal within the next year. In its first annual report the Transport Commission stated: "It is clear that charges policy will be a key to effective integration."[2]

Although the Transport Commission has a large measure of freedom in devising a "charges scheme" for all of the nationalized transport services it is bound by the provisions of the Transport Act, which require that it must develop an "efficient, adequate, economical and properly integrated system of public inland transport" to provide "most efficiently and conveniently for the needs of the public, agriculture, commerce and industry." All of the transport enterprises are to be conducted so as to form "one undertaking." The charges for transportation services are required by the act to be levied so as to secure revenues which are not less than the amounts necessary to meet expenses, taking one year with another. The act also requires that where regular freight services are provided by the commission between the same points, users must be allowed freedom to choose the services they consider best suited to their needs.

The Transport Commission in February, 1948, appointed a committee to assume responsibility for the preparation of the "charges schemes." Separate subcommittees were set up to prepare plans for freight and for passenger charges. As the work proceeds the commission has announced that it will consult with representative shippers for their suggestions and criticisms. The plan or plans, when formulated, will be submitted to the Transport Tribunal and public hearings will be held before the final "schemes" are put into operation.

While carriers and shippers in the United States are searching for rate bases or patterns which will move traffic and provide revenues adequate to meet carriers' requirements, British transport executives and "traders" are searching for a pattern of rates which will meet their requirements. On neither side of the Atlantic Ocean is this search an easy one, but on both sides of the Atlantic it is a problem to which answers must be found.

The British Transport Commission has released a draft outline of principles proposed to be embodied in a charge scheme for merchandise traffic.[3] In this interesting and significant document, the commission outlines the statutory obligations imposed upon it with respect to charges schemes; the objectives of such schemes; the present patterns of charges of different agencies of freight transportation; and the principles proposed to be embodied in a scheme or pattern of rates.

These are matters in which transportation and traffic executives and students in the United States are interested for two reasons: first, because there may be some suggestions of value for adaption to the conditions in this country; and second, because of the crucial importance of rates and charges to the future development of transport in Great Britain.

The Present British Rate Structure

Railways in Great Britain, for a century or more common carriers of virtually all freight traffic, excepting live stock and certain dangerous articles such as explosives, are obliged by law to offer their services under terms and conditions of transportation imposed by statute, and to transport the goods at rates which are also statutory. The Railways Act of 1921 regulates rates and charges and a system of classification of freight consisting of 21 classes or class ratings was put into effect in accordance with its provisions. This system of classification—which places low-value bulky commodities in the first eight classes and higher-valued and lighter articles in the remaining classes, reversing the procedure in the United States—and schedule of "standard charges" have been approved by the Railway Rates Tribunal. This tribunal has been succeeded by the Transport Tribunal created by the Transport Act of 1948.

In assigning goods to classes under the present freight classification, consideration is given to value, bulk or density, risk of damage, and cost of handling. Greatest emphasis is placed upon value. The ineffectiveness of the system of classification and of the standard rates is indicated by the fact that in Great Britain more than 80 per cent of the volume of traffic moves under

[1]Transport Act, 1948, Part V, Section 76.
[2]British Transport Commission, Report and Accounts for 1948, London, July, 1949, p.26.
[3]British Transport Commission, London, December, 1949.

millions of "exceptional rates" which are from 5 to 60 per cent below the "standard rates." This condition is paralleled in the United States by the small volume of the total freight traffic moved at class rates, and the large volume which moves at exceptions to the classification and at commodity rates. The situation in both countries is evidence that class ratings and distance rates are not suitable to move heavy traffic, satisfactory as they may be for high-grade small-lot shipments, and as maximum rates.

All freight excepting live stock, dangerous articles, and a few other special commodities, are carried at "carrier's risk" or without limitation upon the liability of the carriers, excepting, of course, the value of the goods. There are some commodities which are transported at "owner's risk," chiefly those for which special regulations are provided by statute or articles carried on this basis because of the nature of the commodities.[4]

Highway Carrier Rates

In contrast with railway freight rates, the charges of road transport operators (hauliers) are not governed by statute, and the services of these carriers, generally, are not offered under statutory obligations of common carriage. Road hauliers, generally, may select the traffic or goods they transport and the points they serve. These factors have conspired to produce a high degree of concentration of road transport operations between places where the highway carriers can obtain loads in both directions, producing keen competition among the road hauliers operating between these points and between the road hauliers collectively and the railways serving these places. The truck rates often are lower than the railways' standard rates for higher classed traffic. Although road hauliers generally transport the goods on the basis of carriers' risk, many of them transport goods under limited liability arrangements.

[4]This basis of transportation is provided by statute in the Carrier's Act of 1930, and other statutes.

Water Carriers

The services of so-called "statutory canal carriers" are performed at maximum rates and charges set by statutory administrative orders for eight classes or ratings.[5] Many so-called "bye-traders," however, are exempted from statutory regulation of charges. A large percentage of the total canal traffic is moved by these operators. There is no standard practice with respect to liability of inland waterways operators. The statutory canal carriers usually transport the goods at carrier's risk, although some of them limit the amount of their liability. The bye-traders generally carry the goods at owner's risk. There is relatively little joint traffic via rail, road and canal in Great Britain and few, if any, joint through rate arrangements via rail-highway freight services.

General Objectives

One of the major objectives of nationalization is the coordination of the services and charges via these agencies of transport.

The objectives of the commission are to devise a plan which will be: (1) effective in bringing about coordination of the services and rates; (2) simple in structure;

[5]Orders of 1893 and 1894, as amended.

The schedule of potato trains between the Northern Maine producing areas and the New York markets has been cut by the Bangor & Aroostook by a full day to third morning. Further details appear on page 38

(3) effective in enabling the carriers to meet their revenue requirements; and, (4) of assistance in promoting an efficient, adequate, economical and properly integrated system of transport, as required by the Transport Act.

The commission hopes to achieve these general objectives by a charges scheme for freight services by all means of transportation which will embody the following elements: (1) common conditions of carriage, including liability, with appropriate variations in detail to suit particular circumstances; (2) a uniform system of classification of freight for all services; (3) a uniform method of determining distances for rate making purposes; and, (4) differences in charges designed to attract traffic to the service, rail, road or waterway, via which it can be transported most conveniently and economically.

To achieve these objectives the commission through its charges committees has traced a number of "guidelines" based upon existing practices modified and applied so, as nearly as possible, to be used by all three types of transport services. These broad lines have been announced so that those interested may consider the basic principles and test them before the detailed charges schemes are announced.

The matters of chief concern to those concerned with transportation and traffic in Great Britain and in the United States are: (1) the system of classification and rates; (2) the determination of distances for rate-making purposes; and, (3) the conditions of carriage and liability.

Classification and Rates

The proposed scheme contemplates a system of classification to be used by all carriers based upon the following factors or elements:

1—"Loading capability" which is defined as the bulk of the commodity in comparison with its weight;
2—The stowage potential of the goods;
3—Suitability of the goods for loading with other goods;
4—The cost of handling the goods;
5—The risk of loss or damage; and
6—The value of the goods.

Reversing the emphasis placed in rate making under the present British railway rate structure, the chief emphasis will be placed upon loading capabilities — which is a cost element—and less emphasis will be placed upon value. The quantity of goods shipped at one time will be taken into account by appropriate provision of *different rate scales for different quantities of goods* rather than by differences in classification ratings.

The railway rate scales decrease per unit of weight as the quantity of freight increases until the lowest rate is reached at the quantity which will occupy the cubic contents of the vehicle. Thus an article which can be loaded to 10 tons per car will be given basic rates for that quantity and relatively higher rates for smaller quantity shipments up to the highest scale of rates which will be applicable to lots of one ton or less.

The railway rates will include all necessary services including door-to-door service, with lower rates for station-to-station or siding-to-siding services, and the charges of motor carriers will include door-to-door services. This practice will alter the present practice of the British railways of making rates with arbitrary refunds or rebates for services included in the contract but not performed by the carriers. The allowances or extra charges for traffic handled to or from private sidings will be governed by the circumstances in each individual case. The expense of loading or unloading railway cars consigned to or from railway stations will be borne by shippers.

Extra charges for pick-up and delivery services, which will be performed as directed in the contracts of transportation, performed in connection with the movement of traffic to or from stations, wharfs or depots, will be assessed according to scales of charges for pick-up or delivery services which vary with distance. Goods which are difficult to handle or objectionable will not be given pick-up or delivery service.

Premium charges on a higher level than the normal rate scales are contemplated for small consignments—those less than a ton in weight. The charges will be graded so that the highest levels of rates will be applied to the smallest consignments. Special small consignment scales will be provided for lots up to one ton. The rates will be strict mileage rates and gradations will be based upon 3, 5, 8, 11, 21 and 28-lb. consignments, then by 14-lb. gradations up to 224-lb. and by 28-lb. gradations up to one ton (2,240-lb.).

The shipments are rated on a per-consignment basis except that in consignments of less than 28 lb., each package or article is charged as a separate consignment, unless lower charges can be arrived at by considering each package as a consignment of 28 lb. The charges for small consignments of over 28 lb. each are charged for at 14 lb. for each piece, subject to the minimum charge for 28 lb. per consignment. The small-consignment charges include pick-up and delivery services and no refunds will be made if these services are not used.

Special rates will be made for returned empty containers according to the "loading capabilities" of various types of containers, new or used.

The new charges scheme will obviate the necessity, the British Transport Commission believes, for special or exceptional rates which now are so numerous. The objective of the new charging scheme is to encourage shippers to offer goods for transportation in economical loads and to give the shippers the benefit of the economies in lower rates which automatically compensate the shippers for the economies achieved by the quantities and loading potentials of the shipments.

Special rates, which depart from the general pattern, will be considered when the development of substantial movements of traffic is contingent upon rates lower than those afforded by the general scheme. The emphasis is placed upon rates which will encourage and reward the efficient use of the capacities of the transport vehicles. Agreed charges, upon the basis of rates conditioned upon the shipment of all or an agreed part of a shipper's traffic, may be made with one or several of the different Executives. Contract charges for exclusive use of motor transport vehicles by shippers for the transportation of their goods are to be provided.

Live stock rates are proposed to be made upon a per head basis and on a mileage scale, the rates to be set upon each type of animal according to its size and loading capabilities. The station-to-station rates on live stock will include generally all of the conventional services necessary for unloading, care and feeding of stock.

(*Continued on page* 53)

OVERHEAD CONVEYOR SPEEDS B. & M. FREIGHTHOUSE OPERATIONS

The Boston & Maine has placed in service an overhead conveyor to expedite the handling of merchandise at its freighthouse at Gardner, Mass., a point from which a large volume of l.c.l. traffic—chiefly furniture—is handled.

Actual tests show that pick-up and delivery trucks, which heretofore took from two to three hours to unload, can now be unloaded in a half to three-quarters of an hour. In addition to the quicker release of the highway vehicles and the increased efficiency at the freight station, a full day often is saved on shipments received late in the afternoon because the speedier handling permits them to be moved across the platform and loaded into the proper car before closing time.

The conveyor chain, powered by electric motors, moves at a speed which can be varied from 35 to 90 ft. per min. As truckers transfer loads from highway vehicles to four-wheel platform dollies, a checker notes the block number on the shipping order and marks, with crayon, the same number on some part of the dolly load. The dolly is then coupled to and pulled along by the overhead conveyor. As the loads pass the cars for which they are designated, stowers remove the dollies from the conveyor and load the contents into the freight cars. Empty dollies are returned to the conveyor circuit for removal where needed.

Eighteen freight cars can be placed within a few feet of the conveyor loop, and upwards of 40 cars can be loaded at one set-up through adjacent car doorways.

Shipments are chalked to designate the car for which intended. Stowers remove shipments from the conveyor as the dollies pass the specified car

A trucker attaches a loaded dolly to the overhead conveyor chain to start a shipment on its way from truck to outbound car. The return circuit is on the opposite side of the same platform, avoiding any complicated track bridges

PRINCIPLES OF RADIANT HEATING FOR COMFORT IN PASSENGER CARS

A study of relationships between temperatures of radiant curves and inside and outside air temperatures

By M. L. GHAI*
Pullman-Standard Car Manufacturing Company

The most important function of any heating system is to control environmental conditions so that the body will lose only the heat that is produced within it—no more and no less. Fortunately, the human body has a wonderful control mechanism which enables it to regulate, to a remarkable extent, the production and dissipation of heat. When the heat dissipation differs from the heat production, a physiological-psychological-thermostat goes into action to adjust digestion of food, flow of blood, action of skin tissues, etc., until the heat produced by the body equals its heat dissipation, so that small variations in temperature, humidity, wind and latitude do not disturb comfort. However, when environmental conditions cause large differences between heat production and heat dissipation, the capacity of the human thermostat is exceeded and discomfort is noticeable.

The rate at which heat is produced within the body depends partly upon age, sex and size of the person, but activity is the predominant factor. The heat produced within the bodies of normal adults differs under different conditions of activity in a passenger car. For example, the body of a person sleeping produces 290 B.t.u. per hr., which may be compared with 380 B.t.u. per hr. when seated at rest and 760 B.t.u. per hr. when walking at 2 m.p.h. or equivalent activity.

Heat is dissipated from the body largely by convection, radiation and evaporation, loss by conduction being negligible.

The major factors which determine the heat dissipation by these processes are: (1) Temperature of air within the room — inside air temperature, t_i; (2) temperature of inside surfaces of the room—radiant temperature, t_r; (3) velocity of air drafts; (4) moisture content of air—humidity.

If the room air temperature is below 70 deg. F., as is usually the case when radiant heat is used, humidity has little effect on heat dissipation from the body. Also, drafts must be kept below 40 ft. per min. to prevent unequal heat loss from different parts of the body. A common procedure is to assume moderate humidity and moderate drafts, and express the relation between the mean ambient temperature and the mean radiant temperature in the form of a simplified approximate equation, called the "Comfort Equation."

$$t_i + t_r = 140$$

The equation indicates that if the ambient temperature is 74 deg. F., the radiant temperature should be 66 deg. F. If the radiant temperature is raised to say 72 deg. F. by heating the surfaces inside the car, it is possible to maintain comfort even when the ambient temperature is only 68 deg. F.

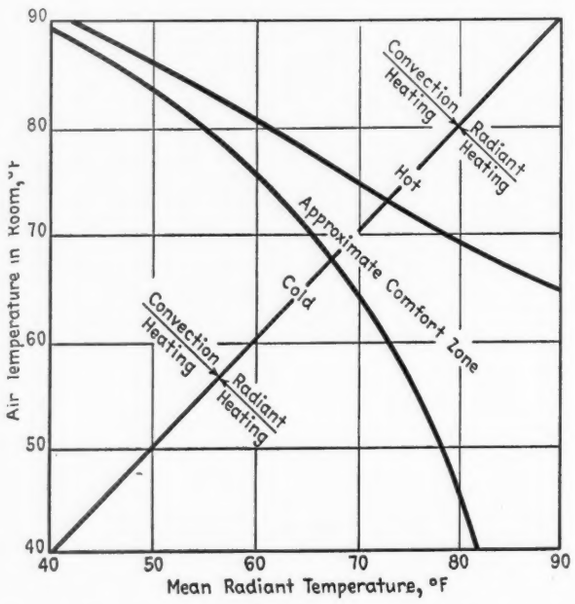


Fig. 1—How the comfort range of room air temperatures is affected by the temperatures of radiant heating surfaces

Modern conventional heating systems for railroad cars are arranged to control ambient temperatures only and no attempt is made to control the radiant temperature. The accompanying table gives inside surface temperatures for different outside temperatures, based upon a coach of average construction having overall coefficients of heat transfer of 0.65, 0.22 and 0.17 B.t.u. per hr. per sq. ft. per deg. F. for windows, exposed walls, and ceiling and floor, respectively; and inside air temperature of 74 deg. F.

VARIATION IN TEMPERATURE OF INSIDE SURFACES AND INSIDE RADIANT TEMPERATURE WITH OUTSIDE TEMPERATURE (Deg. F.)

Outside temperature	Window	Exposed wall	Ceiling and floor	Mean radiant temperature
+40	60.0	69.3	70.4	69.0
0	43.6	63.7	66.1	63.5
−40	27.1	58.1	61.7	57.3

*Mr. Ghai is project engineer of heating and air conditioning, Research and Development Department of Pullman-Standard, also part-time lecturer on mechanical engineering at Illinois Institute of Technology, Chicago

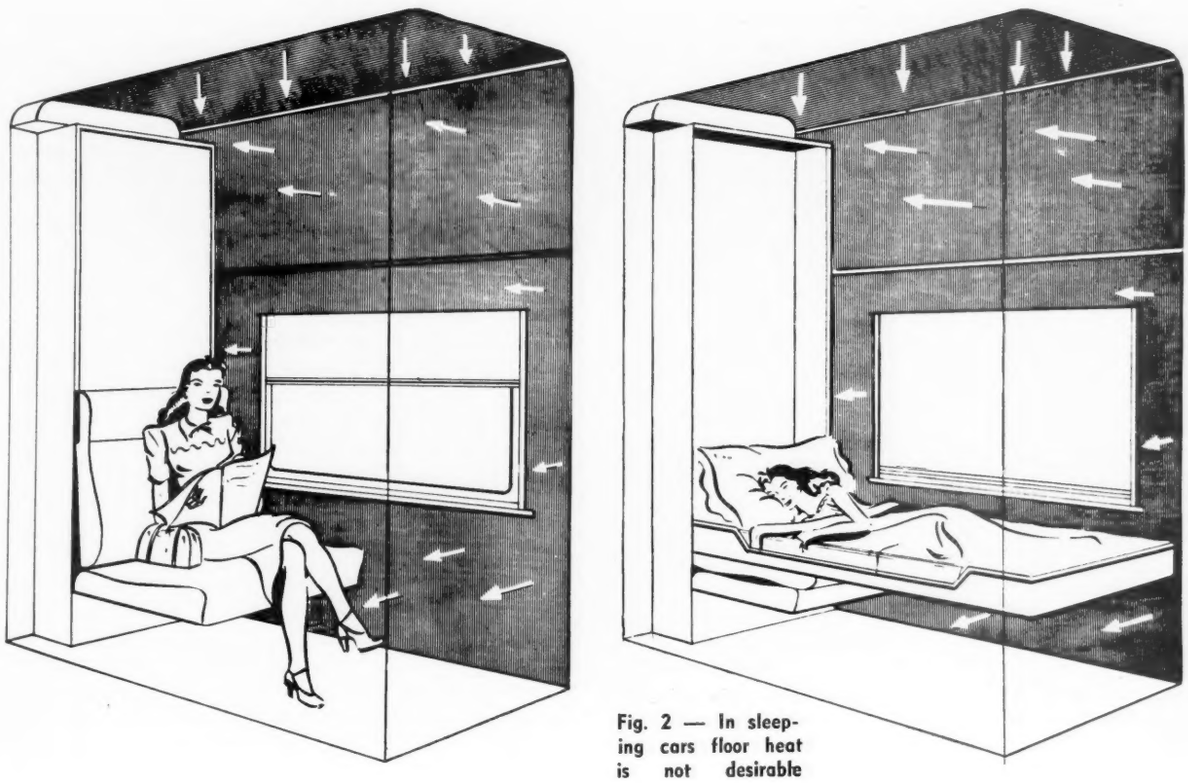


Fig. 2 — In sleeping cars floor heat is not desirable

As outside temperature decreases, the temperature of surfaces inside the car decreases so that the radiant temperature, t_r, inside the car is also lowered. Consequently, the decrease in t_r requires a higher ambient temperature, t_a, in order to satisfy the comfort equation. This explains why it is necessary with conventional systems to use thermostats with variable temperature settings.

Conventional heating systems generally use steam radiators which are located along the outside walls near the car floor in an effort to compensate for the large amount of heat that is radiated from passengers to cold windows and cold walls. However, difficulty arises from the fact that the heat radiated from these radiators while steam is flowing remains almost constant because the temperature of the heating fluid (steam) remains practically constant, even though the demand varies. Since the temperature of walls and windows depends upon outside temperature, the amount of heat dissipated from passengers to these surfaces, and hence the demand, varies directly with outside temperature.

This condition can be improved by using hot water heating systems (1)* because the desired surface temperature of the hot water radiator can be achieved by controlling the temperature of water.

Stratification of air in layers of different temperature is almost negligible in modern conventional heating systems, but there is generally a large variation of radiant temperature within the passenger space. Unfortunately, stratification of radiant temperature is seldom given much attention, even though from the standpoint of comfort this is as important as the stratification of air temperature.

Radiant heating has several other inherent advantages. For example: Fig. 1, which has been prepared from various sources including reference (2), shows that the range of the comfort zone is increased when the ambient temperature is decreased and the radiant temperature is increased. This increased range of the comfort zone is especially valuable for providing comfort in spite of wide differences in passenger requirements due to amount of clothing, activity, personal idiosyncrasies, sex, etc.

The use of lower ambient temperatures, which is possible with radiant heating, reduces the shock effect that is felt on leaving or entering the heated room, and it imparts a feeling of freshness and vitality. Reference (3) states: "The optimum condition for comfort probably lies around an air temperature of 55 deg. F." It is stated in reference (4), "Ellsworth Huntington collected statistics showing best mental function at 38 to 40 deg. F., whereas 64 deg. F. seemed optimal for physical performance." Such low temperatures may be impracticable for railroad cars, but these statements indicate that low ambient temperatures properly proportioned to mean radiant temperatures produce pleasant and healthful conditions. The use of low ambient temperature can also reduce the steam consumption per car and thereby permit an increase in the number of cars per train presently limited by the amount of steam that can be conveyed from locomotive to cars through the train line.

A recapitulation of the foregoing remarks is pre-

*Numbers in parentheses refer to bibliography at the end of this article

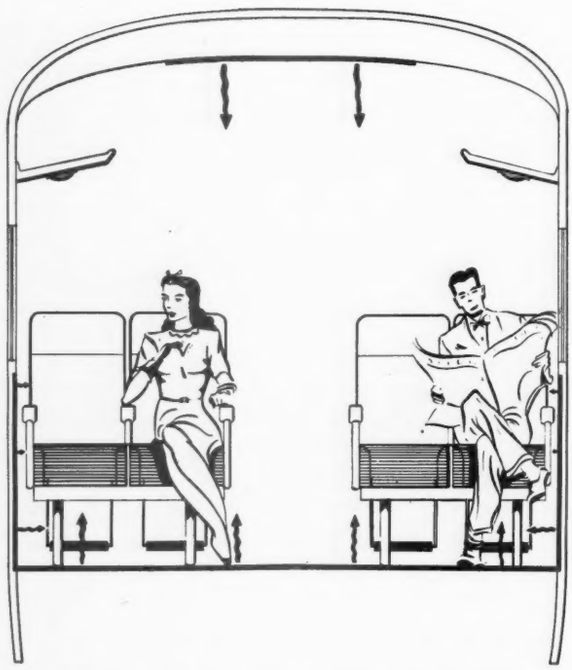


Fig. 3—In coaches a floor panel is added to the side and ceiling panels. Average floor surface temperature should not exceed 80 deg. F.

sented in the following list of advantages of radiant heating of railroad cars compared with the conventional heating system: Removal of the necessity for high inside air temperatures under cold weather conditions; elimination of cold and extremely hot surfaces; reduction in variation of radiant temperature within the passenger space; elimination of floor heaters and consequent saving in space and cost; wider range of comfort zone and more pleasant and healthful passenger environment.

The most effective location of heating panels is in the exposed walls, especially the area below the window which can be arranged to radiate heat to the legs and feet of the passenger sitting near the window, and the area at the sides of the window which should be proportioned to neutralize the effect of cold window surface, so that heat will be radiated to his shoulders.

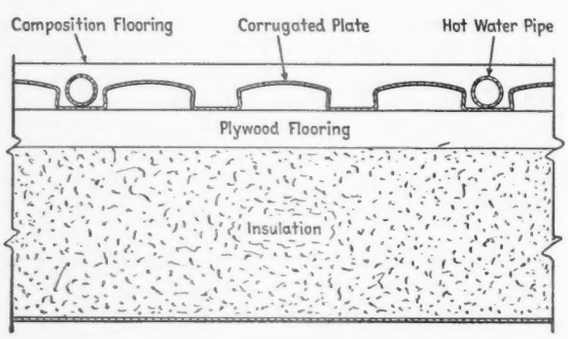


Fig. 4—Space limitations within which heating pipes can be located in car floors pose the problem of eliminating hot spots

Cold window surfaces may be entirely eliminated by installation of electrically heated glass, but the cost of installation as well as the operating costs are comparatively high. The temperature of heating panels below and alongside the window should not exceed about 105 deg. F. to avoid being uncomfortably warm to touch.

In order to eliminate radiant heat shadows, it is desirable to locate panels in two surfaces at right angles. The second surface may be the ceiling or the floor, first being the exposed walls. In sleeping cars, floor heat is not desirable since the radiation effect from the floor will be almost completely shadowed by the berth. Fig. 2 shows a roomette with panels in the exposed wall and the ceiling, which assures adequate radiant heat to the passenger under all conditions. The average surface temperature of the entire ceiling area should not exceed 85 deg. F. in order to overcome stratification of air in layers of different temperature which is difficult to avoid in rooms having low ceilings (5). Localized ceiling areas, however, may be considerably higher than the recommended 85 deg. F. provided the average surface temperature of the entire ceiling does not exceed this figure.

For coaches, floor heat is desirable since the passengers are close to the floor, in spite of the fact that the percentage of heat given up by radiation is less for the floor than for the ceiling and the fact that heat radiated from the floor is shadowed by chairs. The average surface temperature of the floor should not exceed 80 deg. F. although local temperatures up to 85 deg. F. are not objectionable. Floor temperatures higher than these tend to cause foot discomfort, sweating, swelling and itching. Fig. 3 shows a coach with heated floor, a panel below the window, and a panel in the ceiling; this arrangement would provide equal comfort to all passengers.

Medium of Heating

For cars having rooms in which heating panels can be located in walls opposite windows, it is highly inadvisable to do so. Such panels will increase the radiant temperature gradient in the room, and waste a considerable amount of heat by radiating to the window in spite of the fact that glass has good reflectivity and low emissivity for low temperature radiations having long wave-length.

The final decision regarding location of panels must also take into consideration the aspect ratios of the room as well as the locations of openings for air supply, air exhaust, and recirculated air, in order that local drafts and stratification of air temperature may be kept at a minimum. For instance, when using ceiling panels, if the air supply inlets are located in the ceiling and have fairly high discharge velocity, the sweeping action of air over the ceiling surface may result in objectionably high air temperature near the ceiling. With these conditions, the average surface temperature of the ceiling may have to be limited to 75 deg. F., instead of the recommended 85 deg. F. average. Consideration should be also be given to the possibility of using the same panels for radiant cooling during warm weather.

Hot water, steam, hot air, or electricity may be used

as the heating medium. There are two major advantages of using hot water instead of steam for radiant heating. First, hot water panels have practically uniform surface temperatures over the entire heating area, whereas steam panels are generally much warmer on the steam side than on the condensate side. Second, surface temperature of hot water panels can be controlled by varying the water temperature in accordance with the load requirements, whereas an off-on control must be used for steam panels because pressure and temperature of the steam supply remains practically constant regardless of the heating demand. The last disadvantage may be eliminated by using steam under vacuum, which, however, creates several other undesirable features when applied to railroad cars. The principal disadvantage of hot water systems is the increment in the weight of the car due to the weight of water in the system. An example of water-heated floor panels as applied to several railroad cars built in Mexico is given in reference (6).

Hot air has been satisfactorily used for radiant heating of buildings (7, 8 and 9). Its application to passenger cars is especially attractive, since the same system may also be used for panel cooling with practically no changes in the existing cooling unit and only minor changes in the duct system. Several different designs of air flow are possible. For instance, air ducts may be built into ceilings and exposed walls and arranged so that hot air will flow along the ceiling and the exposed walls and be discharged into the car near the floor through properly designed outlets; or endless air duct system may be built into ceilings, exposed walls and floor, and arranged so that hot air will be circulated continuously through the duct system without being discharged into the car. In the latter type of heating or cooling system, it is necessary to supply air required for ventilation by means of an entirely separate system of fans, ducts, heat exchangers, etc.

A third method of air flow can be accomplished by means of air ducts built into floors and exposed walls, and arranged so that the hot air entering the floor duct will travel outwardly along the floor and upwardly through the exposed walls and be discharged into the car through properly designed outlets located near the ceiling. The windows may be warmed by providing perforations or slots in or along the window sill whereby some warm air from the side wall duct can be made to flow over the glass.

Some Special Problems

For railroads using overhead electric power, heating the panels electrically is the most direct method. However, for steam or Diesel-driven trains, the available axle generator capacity is only sufficient to warm the walls or the windows and thereby augment the heat supplied by the steam heating systems. Furthermore, when axle generators are used, electric heating is inefficient since it involves conversion of heat energy into work (a process having low efficiency) in the locomotive, work into electric energy in the generator, and finally the conversion of electric energy into heat.

While solutions of most of the problems related to design of radiant heating systems for railroad cars may be obtained by referring to publications devoted to the theory and practice of radiant heating as applied to buildings, there are several problems that are peculiar to railroad cars. These problems may be solved by analytical and experimental methods based upon fundamental laws of heat transfer and well-known principles of engineering. For instance, when the heating medium is hot air circulated through ducts, it is important to know the variation of air temperature in the duct since the air temperature determines the panel temperature. A theoretical analysis of this problem points out a remarkable fact; that is, the temperature drop of air in a duct depends upon the c.f.m. per ft. width of the duct, and not upon the velocity or the total c.f.m. in the duct. The air velocity is unimportant as long as it is kept within the noise limit. Another special problem arises when spacing of hot water pipes is considered. The pipes of the hot water radiant heating systems in buildings are generally imbedded in concrete at a distance of 1 to 6 in. from the heating surfaces. This helps in obtaining fairly uniform surface temperatures. In railroad cars the pipes in the floor have to be placed at a distance of about ½ to 1 in. from the inside surface, as shown in Fig. 4. Also, the heat loss through the floor is much greater in railroad cars than in buildings. Therefore, the design data commonly used for finding suitable spacing of pipes in buildings cannot be directly applied to railroad cars. More data must be developed if local hot spots are to be avoided.

In radiant heating, it is important that the heating arrangement be well engineered. The history of radiant heating of buildings is full of cases where application of rough rules of thumb led to disappointing results. If similar disappointments are to be avoided in railroad cars, it is necessary that the basic problems be attacked first by analytical and experimental methods before the development of a satisfactory radiant heating system for railroad passenger cars can be expected.

ACKNOWLEDGMENT:

To W. J. Meyer, engineer of general development*, for assistance in preparation of the article; to O. C. Maier*, J. E. Candlin, Jr.*, and H. F. Peterson*, for helpful criticism.

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I. C. C. Bureau Analyzes 1949 Financial Results

"Monthly Comment" also points up last year's all-time safety record, and presents figures indicating that for-hire truckers are producing an increasing proportion of total ton-miles on rural roads

A review of 1949 financial results of Class I roads, with comparisons to 1940 and 1948, headed the latest issue of the "Monthly Comment" of the Interstate Commerce Commission's Bureau of Transport Economics and Statistics. Other articles discussed 1949 railway accident statistics, average load of freight cars, and estimated total ton-miles, both on main rural highways and in intercity traffic, of Class I, II, and III motor carriers.

The analysis of 1949 financial results noted that railway net income "declined sharply" from $698 million in 1948 to $436 million in 1949, a drop of 37.5 per cent. Compared to 1940, the 1949 net income was up 130.7 per cent, although the bureau pointed out that net railway operating income for 1949 had been only 0.7 per cent above 1940. The relatively large increase in net income, the "Comment" said, "may be largely attributed to the decline in total fixed charges from $609 million in 1940 to $422 million in 1949."

Costs Rose Faster Than Revenues

Continuing its analysis of 1949, the review said the $8,580 million in operating revenues reported for the year were 11.3 per cent below the all-time peak year 1948. This left 1949 operating revenues still 99.7 per cent above 1940, but this difference has been absorbed by a 118.3 per cent increase in operating expenses, taxes and equipment and joint facility rents since 1940.

Operating expenses were down in 1949, however, from the 1948 high. They declined from $7,472 million to $6,892 million, or 7.8 per cent. Included in the most recent year's totals was a 7.5 per cent drop in employee compensation chargeable to operating expense although, even with this drop, the 1949 wage figure exceeded that of 1940 by $2,342 million—126.2 per cent. The substantial increases in all operating expenses since 1940 were illustrated by the fact that net railway operating income was "practically identical" in both these years, despite 1949 revenues being almost double those of 1940.

The "Comment" went on to say that in 1949 the combination of operating expenses, taxes and equipment and joint facility rents absorbed 92 per cent of the carriers' operating revenues. This represented the highest ratio for this combination in any of the past ten years, while the percentage of revenues converted into net railway operating income, 8 per cent, was the lowest in the 10-year period.

By territories, the net railway operating income for 1949 was everywhere below 1948, the decline ranging from 23.8 per cent in the Southern region to 43.7 per cent in the Pocahontas region. Compared to 1940, there were declines in net railway operating income in the Eastern district and Pocahontas region of 26.2 per cent and 39.8 per cent, respectively, while increases were registered in the Southern region of 29.1 per cent and in the Western district of 40.7 per cent. Net income after all charges in the Pocahontas region in 1949 was 50.7 per cent below 1940 and in the East was 1.4 per cent below 1940. In the Southern region and Western district 1949 net incomes "greatly exceeded" those of 1940.

Examining the reasons for revenue drops in 1949, the bureau found that all principal sources of revenue, except mail, showed "sharp declines" during the year. The drop from 1948 freight revenues ranged from 19.2 per cent in the Pocahontas region to 8.4 per cent in the West, while the range of passenger-revenue drops was from 13.8 per cent in the Pocahontas region and Western district to 8.4 per cent in the East. Mail revenues, however, gained during the year, with increases ranging from 7.6 per cent in the Pocahontas region to 14.3 per cent in the East.

All-Time Safety Record

The discussion of 1949 accident statistics noted that casualties last year were lower than in any other year since the I.C.C. began keeping records in 1888. William T. Faircy, president of the Association of American Railroads, had previously called attention to this achievement (see *Railway Age* of February 18, page 68). The 1949 total of 3,314 persons killed was 12 per cent below the previous record, set in 1948, and far below the peak year of 1907 when the 11,839 deaths from accidents were more than three and one-half times the 1949 total even though the traffic volume then was much less. At the same time, in 1949 the total injuries dropped 25.5 per cent, from the 1948 total of 43,091 to 32,087 last year.

The number of passengers killed in train and train-service accidents was 25 in 1949 as against 43 the previous year. Employee fatalities were also at the lowest level in I.C.C. records, having dropped from 568 deaths in 1948 to 402 in 1949. Employees injured while on duty were fewer by 28.4 per cent than the year before while the decline in all injuries showed decreases "ranging from 4.6 per cent in the case of 'trespassers' to 46.9 per cent for 'passengers on trains' in train accidents."

Neither suspension of wartime requirements for

"heavy loading" of carload freight, nor the decrease in traffic during 1949, caused any immediate resumption of prewar lighter loading of cars, according to a study of car loading practices included in the "Comment." The Office of Defense Transportation in 1942 had imposed the heavy loading requirements, but the order was suspended February 13, 1949, and automatically terminated when the O.D.T. went out of existence on June 30. In spite of this, the 1949 carload average of 41.8 tons per car slightly exceeded the wartime high of 41.6 tons set in 1943. The drop from 1948 was only 1.6 per cent, the carload that year having averaged 42.5 tons.

The capacity of freight cars, increasing an average of 2.4 tons between 1938 and 1948, accounted "in some degree" for the increased tonnage, the "Comment" said, but it added that the average load for freight cars during the same 10-year period increased 5 tons. In examining carload weights by commodity groups, the bureau noted that all except "Products of Mines" were down slightly in 1949 from 1948. The greatest drop was in the "Manufacturers and Miscellaneous" grouping, amounting to 2.9 per cent. Except for 1948, the report showed the trend in this group has been "definitely downward" since 1943.

For-Hire Trucking on Rural Roads

The article on operations of Class I, II, and III intercity motor carriers compared bureau estimates of ton-miles of these carriers with total ton-miles on main rural roads, as reported by the Bureau of Public Roads. The I.C.C. bureau pointed out that the two sets of figures were not strictly comparable, but it suggested that the comparison nevertheless "throws some light on relative trends." The figures showed that the relative increase in ton-miles produced by the Class I, II, and III motor carriers has been substantially greater than the relative rise in ton-miles on main rural roads. The former was up from 20.7 billion in 1940 to 42.9 billion in 1948, an increase of 107.3 per cent, while the total ton-miles on main rural roads increased 79.7 per cent—from 46.2 billion to 83.1 billion. In 1940 the ton-miles of the Class I, II, and III truckers were equivalent to 44.7 per cent of the total ton-miles on main rural roads; by 1948 the comparable percentage was 51.6.

Summarized briefly in the "Comment" were quarterly returns from 121 water carriers, both freight and passenger, that are under I.C.C. jurisdiction. The results, covering the first nine months of 1949, were compared to 1948 figures for the same period. It was noted that while total freight tonnage of the reporting carriers had increased only 0.6 per cent in 1949, their freight revenue was up 13.3 per cent, from $136.1 million to $154.2 million. Passenger revenues, on the other hand, declined from $14 million in 1948 to $12.7 million in 1949, an 8.8 per cent decrease, and the number of passengers transported was down 5.1 per cent. In freight tonnage, changes ranged from a decrease of 15.8 per cent for carriers serving the Atlantic and Gulf coasts to an increase of 18 per cent for those on the Great Lakes.

BRITISH RATE PATTERN

(*Continued from page* 46)

In order to develop a pattern of rates based upon distance applicable via railway, highway or waterway, and designed to coordinate these services, a uniform method of determining distances for rate-making purposes must be devised. It is apparent that the determination of distances between every point of origin and every destination in Great Britain is impracticable. The rate-making distances will be determined by grouping the points. Square groups having sides approximately 6¼ miles or 10 kilometers are used for this purpose, following the National Grid System.[6] The rate-making or "chargeable" distance between each group and every other group is based upon the measured highway distance over the shortest route between the points. The distances are measured via the highest type roads, except at each end and where lower classified roads may be used to reach the points used as the bases for measurement. Every point in the group or block uses the same distances as the key distance point. A gazeteer will be prepared showing the number of the block or group in which each point in Great Britain is located. Special adjustments will be made where the road distances are circuitous as compared with railroad distances because of the interposition of bodies of water. Once the group locations and distances are fixed it is not contemplated that changes will be made because of the opening of new roads which might reduce the distances.

The third major feature of the proposed charges scheme is the establishment of uniform "conditions of carriage" for all services, railway freight and passenger trains, road transport, and inland waterway service. Such a general plan is contemplated, subject only to such variations with respect to the carriers' liability as may be necessary to meet particular conditions prevailing only in one form of transport.

Generally, all freight will be transported subject to carrier's risk or liability by all carriers, excepting only goods which, because of their nature, will be accepted by all carriers at owner's risk.

Goods which are improperly protected by packaging will be transported subject to conditions which will relieve the carriers of liability for loss or damage resulting from the inadequacy of the packaging. The present practice of the railways of accepting goods for transportation at alternative rates conditioned upon carrier's or owner's risk will be discontinued.

In all cases, the maximum liability of the carriers will be specified. If the value of the goods exceeds that maximum shippers will be given the option of declaring the full actual value and paying an extra or supplemental charge or premium to compensate the carriers for the assumption of the additional risk and liability.

Special conditions of carriage will be provided for the transportation of coal, dangerous articles, newspapers and milk.

[6]The National Grid System was adopted by the British Ordinance Survey following the recommendations of the Davidson Committee in 1938.

Communications . . .

Source of New Capital?

PHOENIX, ARIZ.

TO THE EDITOR:

Congratulations on your article in the January 7 *Railway Age*, page 218, concerning the need of "new capital" for fixed property improvements. It represented a lot of careful thought and hard work in its assembly.

I noted you list three sources as possibilities of obtaining this "new capital" as compared to Mr. Fiechter's four—earnings, individuals, institutional investment or Uncle Sam. I took a lot of encouragement out of a recent Interstate Commerce Commission report to Congress, in which they suggested a policy of "bold experimentation" on the part of the railroads [*Railway Age*, January 29, 1949, page 24] and further stated they were ready to put their shoulder to the wheel. Isn't there a key to the solution?

If we reduce investment to its simplest terms, all an investor requires is two things—a certainty his investment will be returned intact at some predetermined time, plus a reasonable rate of return on this investment. Your analysis of equipment trust issues is proof of that, with as low as 1¾ per cent returns. The trouble seems to center mostly on the "after acquired" clause in most bonds.

As you point out, if earnings are used to improve fixed property it takes $1.61 to get $1.00 worth of improvement. That by itself is self-defeating for most items. Actually, does it seem as if there is much chance that these taxes will be reduced? Most seem to agree the probability is for an increase. But if these improvements could be made out of expenses in some way or other, would you not get $1.00 for $1.00? If we go back many years something like this was done. We substituted creosoted ties for untreated ties in track. In many of the depression years the savings from this one change just about equaled the industry's total net earnings.

As Mr. Dick points out on page 165 [*Railway Age*, January 7] heavier rail and more permanent track will reflect great savings in maintenance-of-way expense. Personally I feel that the maintenance-of-way ratio could in a reasonable length of time, or sufficient to amortize the investment, be reduced to approximately 10 per cent. Could these improvements be gained under some sort of bookkeeping similar to the way creosoted ties and timber were gained? If so, why could not a way of financing be developed on a rental basis, the rental to apply to purchase? As Mr. Fiechter points out, the elimination of only one sectionman's wage offsets the interest charges on a $100,000 investment. This in turn would release to the stockholder earnings ordinarily used in this manner. On the other hand it should prove attractive to the bondholder, increasing his stake in the material applied.

In order to make this attractive to an investor there would have to be some method insuring the repayment of this investment. Under ordinary circumstances the savings themselves would do this, but in order to be doubly sure, could not ½ of 1 per cent or something like that be earmarked from income and charged out as an expense? Properly safeguarded, of course, to prevent abuse and only to be used in case of necessity.

I was very much interested in a small financial item printed in the *Railway Age* of October 15 concerning a small railroad [Pecos Valley Southern] borrowing money from the Reconstruction Finance Corporation for this purpose and asking I. C. C. permission. If this item is allowed, perhaps it would open the door to a lot of new thinking.

I just mulled over the figures in the *Railway Age* of December 17, using the New York Central 10 months' operations—a total income of $577 million and an m. w. expenditure of $78 million. If an m. w. ratio of 10 per cent could have been attained, this would have been a saving of $21 million, approximately doubling earnings, to a total of $42 million. The N. Y. C. has about 21,000 mi. of maintained track. A saving of $1,000 per track-mile equals this sum. Nor is such a saving impossible to think about, provided investment could be obtained to make these savings possible. That is, with 2 per cent or 3 per cent money charged out to expenses—not from earnings—requiring $1.61 to apply $1.00 worth of improvement.

With an accumulated deferred m. w. sum of $875 million and annual m. w. expenditures approaching $1,500 million, an ultimate goal of a 10 per cent ratio would go far in solving the problem, much as Dieselization has solved motive power expense problems. Why save a dollar by Dieselization and spend the same dollar saved in another preventable wasteful manner?

I know the problem is not as simple as I have stated it here, but if we stick to the simple fact investment will make these savings. All investors require is two simple assurances. Surely the brains we have in this country, if put to work, can and will arrive at a solution.

The 40-hr. week and present wages may yet be a blessing in disguise if they start some real thinking on a problem like this.

LEE SPENCER

Rail Credit Cards—A Shipper's Experience

MADISON, WIS.

TO THE EDITOR:

The writer was pleased to see the editorial, "Too Bad About Credit Cards," in the December 10, 1949, *Railway Age*.

When the rail credit plan was announced our company ordered a number of the cards for our executives and sales personnel, but — although these people are using the air credit cards continually — very few of them make use of the rail travel credit cards unless they get into a pinch and do not have available funds.

The reason is that the transaction at the railroad ticket window has been made difficult for both the ticket salesmen and the customer. On the other hand, when purchasing air transportation, the ticket window transaction is easier than one made with cash.

At the air lines' office, the credit card holder passes his card to the ticket salesman, who stamps it with a machine similar or identical to that used by the large department stores for their charge accounts. In the railroad office, the ticket salesman is required to make out a complicated form and the customer must sign it. Now one of the best salesmen of railroad passenger transportation is your ticket agent. However, his management has put before him a procedure which is annoying, time consuming and irritating to customers at his window. Consequently, I cannot blame him for wishing to discourage the sale of rail transportation on credit cards.

The rail credit card was just one more iniquity added to a host of others he has been saddled with — including clergy tickets, tickets purchased on state or federal government order, charity tickets, coach seat reservations and round-trip tickets involving complicated routes.

Mr. Traveler, when approaching a ticket window in a large city, look at those standing in line and attempt to gage whether any are clergymen or holders of government orders! If they are, hunt up another line because those are time-consuming transactions!

It is my belief that a rail travel credit plan which provides a simple instead of a complicated transaction at the ticket window would be of value to the public and react in the interest of the railroads. The ticket window transactions on government order, clergy tickets, charity tickets and all the others should also be simplified. Taking advantage of new business machine developments would seem to be a solution.

O. B. WYNN
Traffic Manager, Ray-O-Vac Company

GENERAL NEWS

I. C. C. Will Probe Free-Ride Practices

Launches inquiry to see if I.C. Act is being violated

The Interstate Commerce Commission has instituted upon its own motion an investigation of practices of Class I railroads with respect to giving free passenger transportation. The commission's order, dated February 2 and made public February 17, said that the inquiry would be with a view to determining whether any of the free-transportation practices are in violation of any provision of the Interstate Commerce Act. No date was set for hearings.

The proceeding is docketed as No. 30475, Unauthorized Free Transportation by Railroads, and the commission instituted it after considering "the matter of the enforcement of the provisions of sections 1(7) and 6(7)" of the act "with respect to free transportation. . . of persons not within the excepted classes designated in sections 1(7) and 22. . ." The commission's interest in the matter was indicated by its latest annual report which revealed that its Bureau of Accounts and Cost Finding had conducted an investigation of "free transportation incidental to publicity programs."

Free Pass Limitations

Section 1(7) prohibits a railroad from giving free passes, or free transportation, "directly or indirectly," to anyone except the following: Its employees and their families; general officers and attorneys of railroad labor unions; ministers of religion; traveling secretaries of the Young Men's Christian Association; inmates of hospitals and charitable institutions, and persons exclusively engaged in charitable work; indigent, destitute and homeless persons, and such persons when transported by charitable societies or hospitals, and the necessary agents employed in such transportation; inmates of soldiers' homes; necessary caretakers of live stock, poultry, milk, and fruit; employees on sleeping cars and express cars; linemen of telegraph and telephone companies; employees of the railway mail service and accredited agents, officers and inspectors of the Post Office Department, "while traveling on official business"; customs and immigration inspectors; newsboys on trains; baggage agents; witnesses in cases in which the railroad is interested; the persons injured in wrecks and physicians and nurses attending such persons.

The granting of free transportation to any but the foregoing is punishable as a misdemeanor, with a fine of not less than $100 nor more than $2,000. The user of such illegal free transportation is subject to the same penalty.

Section 6(7) is the one which prohibits a railroad from engaging in transportation unless it publishes tariffs and files them with the commission; and which also requires collection of the published rates. Section 22 is the one which stipulates that nothing in Part I of the act shall prohibit the railroads from giving free or reduced rates to the federal, state, and municipal governments. It also lists again, as eligible for free or reduced-rate transportation, several of the same groups that are qualified for free service under section 1(7). And it authorizes reduced rates for members of the armed forces traveling at their own expense, provided such rates are published in tariffs.

Urge Repeal of Freight And Passenger Taxes

Complete repeal of the taxes on amounts paid for transportation of property and passengers was urged upon the House ways and means committee in presentations made on February 15 by Joseph F. Mann, general counsel of the Union Pacific and chairman of a tax committee of the Assooiation of American Railroads, R. M. Drysdale, Jr., executive vice-president of the Federation for Railway Progress, and Walter R. McDonald, general solicitor of the National Association of Railroad and Utilities Commissioners. At a previous session of the committee's hearings, Secretary of the Treasury Snyder had said that President Truman's tax program "permits" elimination of the freight tax, but only a reduction, from 15 per cent to 10 per cent, in the tax on fares (see *Railway Age* of February 11, page 57).

The freight tax is 3 per cent on amounts paid for transportation of property, except in the case of coal where it is 4 cents per short ton. This and the fare tax, Mr. Mann said, "are wartime exactions, imposed, in the case of the passenger tax, principally to discourage passenger travel, and, in the case of the freight tax, as a wartime revenue measure." He insisted that they "have no place in the peacetime economy."

Advantages from Repeal

In advocating their repeal, the U.P. executive said that Congress should take action for the following reasons: The taxes operate to increase the cost to the consumer of "practically every article. . . on the American market"; the price increases they cause tend to restrict consumption and limit production and employment; they are "plainly discriminatory" because they apply only to charges paid to for-hire carriers, and not to private transportation; and they are "in derogation" of the national transportation policy because, "by diminishing carrier revenues (through their effect in diverting traffic to private carriage), and by increasing the cost of carrier operation (through their effect on prices)," they "make for unsound economic conditions in the transportation industry. . ."

Mr. Drysdale said that the taxes, which were imposed to "speed victory," now "linger to retard railway progress." He pointed out that in 1949 the government collected $237 million in the fare taxes which were originally imposed to discourage people from traveling.

"In the same year," the F.R.P. executive continued, "our great railway passenger industry, which not only has to pay its own way but pay taxes to subsidize its competitors as well, is estimated to have lost a staggering $550 million. This loss meant laying off employees, higher freight rates, less new equipment, and reduced payments to the nation's 1,000,000 railroad investors."

Mr. Drysdale also addressed himself to contentions that those advocating repeal of the levies should indicate how the revenue loss to the government should be recouped. "These taxes," he said, "were not imposed with the understanding that they would remain in

Nickel Plate Resumes A.A.R. Membership

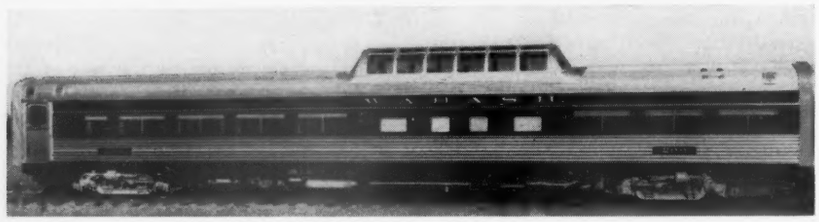
The New York, Chicago & St. Louis (Nickel Plate) has resumed full membership in the Association of American Railroads.

Along with the Chesapeake & Ohio and the former Pere Marquette (now the P. M. district of the C. & O.), the N. Y. C. & St. L. partially withdrew from A. A. R. membership early in 1947, when the road was under C. & O. control. The withdrawal became effective 90 days after notice thereof was given on October 19, 1946 (see *Railway Age* of that date, page 649). Like the C. & O., however, the Nickel Plate continued its participation in the A. A. R.'s car service and per diem agreements, interchange agreements and agreements relating to transportation of explosives, and its compliance with railway accounting and freight claim rules.

effect while ways and means were sought to make up for possible loss of revenue to the government by their repeal. The government which asked for these emergency measures and implicitly promised to repeal them when the war was over did not make it a condition of that repeal that it must be accompanied by revenue from other sources to make up the difference."

General Solicitor McDonald of the N.A.R.U.C. presented a resolution calling for repeal which was adopted by the state commissioners at the 1949 annual meeting of the association. He also made arguments in support of the resolution's recommendation and in support of another of the commissioner's resolutions which expressed concern over the prospective impact of further increases in corporate income taxes on utility rates. As to corporate income taxes, Secretary Snyder had recommended that the present 38 per cent general rate be raised to 42 per cent.

"At the present level of federal corporate income taxes," Mr. McDonald said, "the state commissions are compelled to provide $1.61 (in net revenue before federal income taxes) in order to enable the utility to net $1.00 after such federal taxes. If federal corporate income taxes are increased to 42 per cent, the state commissions would be compelled to provide $1.72 in annual (net) revenue in order to enable the utility to realize $1.00 after federal income taxes. This action which the state commissions are compelled to take in order to enable the utility to earn an adequate rate of return is necessarily reflected in the rates charged the utility consumers."



**WABASH "BLUE BIRD" IS NEWEST DOME-CAR STREAMLINER.—On February 26 the Wabash will place in service between St. Louis and Chicago a new, streamline "Blue Bird." Four of the train's six cars will be Vista-Dome cars, the consist, from the head end, including a Diesel-electric locomotive (2,000 hp. or 2,250 hp.); a coffee-shop club car; three dome coaches; a dining car, and a dome observation-parlor car. Total seating capacity of the train, including seats in the dome sections, will be 382 passengers. The Diesel locomotives to be assigned to the train were built by the Electro-Motive Division of the General Motors Corporation, and will be drawn from a passenger pool. The cars were built by the Budd Company. Interior decorations were created by John Harbison, industrial architects, in conjunction with the railroad's passenger and mechanical departments. Total cost of the train, with locomotive, is about $1½ million. The "Blue Bird," northbound, will leave St. Louis at 8:55 a.m., instead of 4:45 p.m., and arrive in Chicago at 2:05 p.m., on a schedule 15 min. faster than at present. Southbound, it will leave Chicago at 4:45 p.m. and arrive in St. Louis at 10:10 p.m., as at present. The one set of streamline equipment will make a round-trip daily, whereas two sets of standard equipment had been required to protect the prior service. A more detailed description of the equipment will appear in a future issue of *Railway Age*

30 Killed, 100 Injured in Long Island Collision

Thirty persons were killed and approximately 100 injured just west of Rockville Centre, N. Y., at about 10:35 p. m., February 17, when an eastbound Long Island electric train apparently ran through a "Stop" signal protecting the west end of a temporary gauntlet track and struck the first car of a westbound electric train just emerging from the gauntlet.

The gauntlet, which has a total length of about 2,000 ft. between normal clearance limits, was placed in service in April, 1949, for temporary use while the regular double tracks—part of the Long Island's main line from New York to Montauk—are being elevated to eliminate a number of grade crossings through the town of Rockville Centre. Gauntlet construction was required because there is insufficient space between the new embankment and buildings adjacent to the right-of-way for temporary double tracks with usual clearances.

The gauntlet is protected by a temporary interlocking, manually controlled from Centre tower at Rockville Centre, and position-light signals, which are repeated as cab signals in the cabs of trains operating in the territory. It is also protected by a 30-m.p.h. slow order and by standing special operating instructions. The cab signals are of the type which sound a whistle warning when the train passes a "Stop" signal, and are believed to have been in good working order.

Estimated 1,000 Passengers Involved

Trains involved were No. 192, which left New York at 10:03 p. m., eastbound for Patchogue, with 12 steel cars and an estimated 800 passengers; and No. 175, westbound from Babylon to New York, with eight steel cars and an estimated 200 passengers. The latter was due to leave Rockville Centre at 10:31 p. m., and the eastbound, running express from Jamaica, was due to arrive there at 10:36 p. m. So far as could be determined up to the time this issue of *Railway Age* went to press, the eastbound train failed to observe either distant or home signals set against it as it approached the west end of the gauntlet track, and ran onto that track just as the west bound train was leaving it.

The left sides of the first cars of the two trains struck each other at about the throat of the gauntlet, some 200 ft. east of Merrick road, shearing and telescoping the left sides of each. Both of those cars, and also the second car of the westbound train, were derailed, and it was in those three cars that most of the deaths and injuries occurred. No other cars left the tracks.

The tower operator has stated that the signals were properly set, and it has been definitely determined that they were

in good working order. The only cause so far assigned for the worst accident in the Long Island's history is "human failure." Jacob Kiefer, motorman of the eastbound train, a 32-year veteran with some 27 years' experience as a motorman, has been advised by counsel and union officials to make no statement until called upon at the official investigation by the Interstate Commerce Commission, the Public Service Commission of New York, the Nassau County district attorney's office and the railroad. He has, however, been arraigned by the county on a man-slaughter charge. Unconfirmed reports have indicated his attention may have been distracted from the signals just before the accident by some other person thought to have been riding with him in the cab.

No crew members of either train were killed, but several, including Mr. Kiefer and the motorman of the westbound train, were among the injured, 78 of whom required hospital attention.

Dr. Homberger Making Study of German Railroads

Dr. Ludwig M. Homberger, director of transportation studies of the American University, Washington, D. C., is in Frankfurt, Germany, to participate in a series of conferences on the reorganization of the German railroads. This was announced by the university in a statement which explained that the doctor "is one of four international experts who will submit recommendations to the German minister of transport after a survey of the railroads, their financial system and their relationship to the government."

The other participants in the study are from Switzerland, Belgium, and Sweden. A former executive director of the German roads, Dr. Homberger came to this country shortly after Hitler's rise to power. The announcement also said that the Rail Transportation Institute held annually at the university would be conducted after Dr. Homberger's return.

Would Liberalize Pensions To Stimulate Retirements

Railroad employees "are faced with the most dismal job situation in their history," Representative Marcantonio, (American Labor) of New York, said in a February 20 House speech advocating enactment of a bill he is sponsoring to liberalize benefit provisions of the Railroad Retirement Act. As Mr. Marcantonio summarized its provisions, the bill, H.R. 2146, would "provide full annuities, at compensation of half salary or wages based on the five highest years of earnings, for individuals who have completed 30 years of service or have attained the age of 60."

The printing of Mr. Marcantonio's speech required 3½ pages in the Congressional Record. He explained that he had introduced the bill at the request of "the Chicago Committee for Progressive Railroad Labor Legislation," and then went on to assert that "tens of thousands of railroad men" have supported it "by petition." Thus he did not "hesitate to say that the rank-and-file membership of the standard railroad labor unions are practically 100 per cent behind this measure." In support of his assertion that railroad employees now face their "most dismal job situation," he said that "255,000 workers have lost their jobs in the past 12 months."

In the course of his speech, Mr. Marcantonio addressed himself to such propositions as these: Slam-Bang Speed-Up Throwing Men Out of Work; High Tax Justifies Demand for Higher Old-Age Benefit Payments Now; Present Low Payment Means Less Retirement; The Bill Raises Retirement Payments and Means More Retired Workers; Two Hundred and Twenty-Five Thousand Would Be Eligible; Figures Show Provisions of Bill Can Be Paid Out of Current Collections; The Big Retirement Swindle of the Railroad Corporations; Wall Street Railroad Magnates Should Be Made to Pay; Streamlined Out of Jobs.

The latter was a reference to Dieselization, Mr. Marcantonio suggesting that "how Diesels slaughter the jobs of road and yard crews can be seen at a glance at any railroad division point in the United States." The congressman also discussed the railroad "profit picture." Of it he said:

"While 900,000 workers were being squeezed out of the industry, the Wall Street railroad magnates were reaping a golden harvest—they raked in billions. 'All the traffic will bear and the public—and workers—be damned,' has ever been their slogan. In 1948, for example, they hit an all-time high, the largest peacetime profit since 1920, many of the roads doubling and trebling their 1947 profits. Despite declining carloads last year and slightly reduced net profits, the Wall Street railroad financiers look for plenty of gravy in 1950. They expect to extract it out of the hides of even fewer railroad workers and the public." [The 1949 net railway operating income of the Class I roads was 31.4 per cent below that of 1948, while the net income was off 37.5 per cent.—Editor]

Several other bills to liberalize the Retirement Act in various ways are pending in Congress. While the House heard Mr. Marcantonio, another such bill, S.3064, was introduced in the Senate by Senator Langer, Republican of North Dakota. It would increase the act's benefit provisions by 25 per cent.

The "National Railroad Pension Forum" of Chicago said the Langer bill was introduced at its request.

B. & O. Coal Exhibit Supplies "Sales Ammunition" to Dealers

Over 300 retail coal dealers and members of the press were guests of the Baltimore & Ohio on February 21 at the unveiling of the railroad's new "traveling coal exhibit" in Grand Central Station, Chicago. A luncheon at the Union League Club followed the viewing of the display, which has been designed to help bituminous coal win a larger place in the market for home fuels. The exhibit is to tour a number of other cities, including Baltimore, Md., Detroit, Mich., Cleveland, Ohio, Toledo, Cincinnati and Columbus.

The presentation includes a large map showing bituminous coal-producing areas along B. & O. lines, with samples of the types of coal coming from each of the 26 different seams in production in those areas. Also included are several types of automatic stokers for home furnaces, hand-fired smokeless coal heaters for home use, smokeless home furnaces, and a diorama of a coal mine. One of the newer developments exhibited is a model of an overfire, steam-air jet furnace developed by Bituminous Coal Research, which reduces smoke and greatly increases combustion efficiency.

The Chicago retail coal dealers and newsmen also examined in the station three hopper cars containing high quality bituminous coal, and watched a demonstration wherein part of the coal was trans-loaded into the latest type of home-delivery trucks. A Barber-Greene loader was used in the demonstration. The trucks have enclosed chutes to eliminate dust when making home deliveries.

Speaking at the exhibit's opening, Clark M. Groninger, manager of coal traffic for the B. & O., stated: "This effort to help the retail coal dealer in his competition with oil and gas is evidence of the B. & O.'s faith in the future of the bituminous coal industry. Despite the competition from other fuels, most of the homes in the United States are still heated by coal, and the domestic fuel market constitutes a large and important segment of the bituminous coal market as a whole."

Kansas Intrastate Rates

The Interstate Commerce Commission has found that undue discrimination against interstate commerce has resulted from the refusal of the Kansas State Corporation Commission to authorize intrastate freight-rate increases on various commodities in line with the Ex Parte 162 and Ex Parte 166 advances in interstate rates. The report, in No. 30035, stated that an order requiring Kansas railroads to make the increases would be issued unless the state commission advised within 30 days from February 13 that it would "promptly" permit the adjustment.

Evidence reviewed in the report indicated that the refusal of the Kansas commission to authorize the same increases as the I.C.C. authorized for interstate application is resulting in revenue losses to the Kansas roads of approximately $842,000 a year. The

rates involved are those on cement; livestock; brick and articles taking brick rates; sand, gravel, broken, ground or crushed stone (including fluxing stone), chatt, and other commodities grouped therewith; agricultural limestone; l.c.l. shipments accorded pick-up and delivery; hay; clay sewer pipe and articles taking the same rates; and sugar beets.

The I.C.C. found that the increases should be made on all except the latter three commodities. As to hay and clay sewer pipe, it said that the increases would place them "on a higher level than certain interstate rates on these commodities from or to Kansas points." As to sugar beets, it said the Kansas movement is almost entirely intrastate; and "the preponderance of evidence indicates that increased rates would discourage their production and yield little or no additional revenue."

Sawyer Says He Favors Selling Barge Lines

In announcing that he had rejected a private-carrier group's offer to lease the transportation facilities of the government-owned Inland Waterways Corporation, Secretary of Commerce Sawyer said he was in favor of transferring I.W.C. operations to private interests "under conditions providing assurance of satisfactory service and reasonable expectation of profit." The secretary's announcement of February 15 was noted briefly in the *Railway Age* of February 18, page 66.

The lease proposal was submitted by Henry F. DeBardeleben of Birmingham, Ala., on behalf of a group of private water carriers on the inland waterways (see *Railway Age* of January 28, page 43). Secretary Sawyer said he had submitted it to I.W.C.'s advisory board which had expressed its adverse reaction in a resolution reading as follows:

While the board favors transfer of the Federal Barge Line to private enterprise under conditions assuring satisfactory common carrier service and rates, the board does not consider that the proposed lease gives this assurance. The board recommends that further efforts be made to get a completely satisfactory proposal for private operation of the Federal Barge Line which would provide assurance of satisfactory service at reasonable rates through rehabilitation of the Federal Barge Line with the most modern and efficient equipment. The board also recommends that any lease or sale should provide that the lessee or purchaser take over the rights and liabilities of the Inland Waterways Corporation with respect to terminals. Since the board is of the opinion that the improvements contemplated in the rehabilitation program now before Congress will be needed after as well as before transfer to private operation and cannot be delayed without seriously endangering the services rendered by Inland Waterways Corporation, the board strongly recommends that the Secretary urge prompt completion of Congressional action authorizing and making appropriations for the proposed rehabilitation.

In his letter to Mr. DeBardeleben, Secretary Sawyer said that his review of I.W.C.'s situation had led him to conclude "that satisfactory common carrier service, particularly for less than bargeload merchandise traffic, can be provided at reasonable rates, on a profitable basis, but only if the Federal Barge Line is thoroughly rehabilitated and modernized with the most up-to-date and efficient equipment, both on the water and at the terminals." That is why the secretary recommended the rehabilitation program now under consideration by Congress. If Congress acts favorably, and the proposed rehabilitation is accomplished, Mr. Sawyer, as his letter put it, is "convinced that private enterprise would find it desirable to take over the operation . . . on terms satisfactory both to the government's financial interests and to the interests of the customers of the line and the public generally."

As to the lease offer, Mr. Sawyer told Mr. DeBardeleben that it "does not provide a satisfactory basis for the termination of the government's activities." More specifically, the secretary said that the proposal did not make adequate provision for rehabilitation of the facilities; and that it was limited to the transportation facilities, which "would leave the government encumbered with responsibilities and financial liabilities with respect to the terminals served . . ." He added that he was "as much interested in getting the government out of the terminal business as I am in getting it out of the barge business."

In closing, the secretary told Mr. DeBardeleben he would be pleased to consider from the group any other offer which would give "more adequate assurance" of accomplishing the desired results.

The final run of train No. 47 on what was said to have been, prior to its recent abandonment, the oldest continuously operated passenger service in the United States—on the Baltimore & Ohio's old main line between Baltimore, Md., and Mount Airy, 39.6 mi.—was handled by (left to right) J. F. Barker, brakeman, Wilbur F. Hendricks, conductor, Russell M. Bly, fireman and Jacob E. Kessler, engineman

Transport Tax Repeal Urged by A.R.C.I.

Outright repeal by Congress of wartime excise taxes on railroad passenger fares and freight shipments was urged this week by the American Railway Car Institute in a resolution adopted by its board of directors and sent to members of Congress.

Commenting on the resolution, S. M. Felton, president of the institute, which represents manufacturers of railway freight and passenger cars in the United States, said:

"Railroad passengers and shippers of freight should not have to pay war taxes now and the railroads should not have these extra burdens at a time when they need every possible incentive in developing more passenger and freight traffic. The railroads are the backbone of our national transportation system. These excise taxes are a serious detriment to their economic health. The taxes . . . were levied for the purpose of restricting unessential passenger and freight movement during the war. They have outlived their usefulness and ought to be repealed in their entirety in the interest of 'fair play' to the railroads as well as to travelers and shippers."

Staley Qualifies for Spotting Service Under Line-Haul Rates

The Interstate Commerce Commission has found "just and reasonable" tariff schedules whereby the Wabash and Baltimore & Ohio propose to cancel charges for switching interstate traffic to and from points of loading and unloading in the Decatur, Ill., plant of the A. E. Staley Manufacturing Company. The commission's report in I. & S. Dock-

et No. 5387 was by Commissioner Patterson, and the accompanying order vacated the suspension of the tariff schedules involved.

In finding that provision of the spotting services without charge in addition to the line-haul rates was lawful, the commission noted changes in the plant's facilities which had been made since its previous determination to the effect that spotting charges must be assessed. The switching service, it said, now conforms to the Ex Parte 104 rule in that the spotting operations are performed by the railroads "at their operating convenience, in continuous movement, without interruption or interference by Staley.

The majority report was accompanied by a brief concurring expression from Commissioner Alldredge. Also, it was noted that Chairman Johnson did not participate in the disposition of the case.

17 Injured as "Pan American" Leaves Rails in Mississippi

Twelve cars of the Louisville & Nashville's "Pan American," en route from Birmingham, Ala., to New Orleans, La., were derailed about six miles west of Gulfport, Miss., on February 18. The accident, in which 17 persons were injured, was reported to have been caused by a broken rail.

U. P. Extends Rail-Truck Coordination to Kansas Line

To speed up passenger service and the handling of mail and express, the Union Pacific has extended its coordinated highway vehicle service for "head-end" business to include its main line in Kansas between Topeka and Salina. As described in a feature article in the *Railway Age* of August 6, 1949, page 54, the U. P. has successfully employed this type of service on its main line through Nebraska, Colorado and Wyoming.

Tractor-trailer type vehicles are utilized to assemble and distribute mail and express to and from wayside stations, and are coordinated with the westbound "Kansan" and eastbound train No. 70. Numerous train stops, except for passengers, are eliminated by the service.

Southern Rate-Pact Hearing Scheduled for New Orleans

The next sessions of hearings in connection with the Interstate Commerce Commission's consideration of the Bulwinkle-Act agreement filed by southern railroads will be held March 21 at the Jung Hotel, New Orleans, La., before Commissioner Rogers and Examiner Burton Fuller. The proceeding is docketed as Section 5a Application No. 6.

Freight Car Loadings

Loadings of revenue freight for the week ended February 18 were not available when this issue of *Railway Age* went to press.

Loadings of revenue freight for the week ended February 11 totaled 568,841 cars, and the summary for that week as compiled by the Car Service Division, Association of American Railroads, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, February 11

District	1950	1949	1948
Eastern	111,700	133,118	135,798
Allegheny	114,425	150,492	152,367
Pocahontas	20,608	59,816	64,048
Southern	105,620	121,829	123,522
Northwestern	68,456	72,523	80,716
Central Western	93,684	103,569	118,664
Southwestern	54,348	58,095	58,755
Total Western Districts	216,488	234,187	258,135
Total All Roads	568,841	699,442	733,870
Commodities:			
Grain and grain products	39,258	39,667	36,734
Livestock	7,650	7,814	7,656
Coal	52,362	158,378	171,826
Coke	10,645	15,864	14,850
Forest products	34,312	31,536	35,388
Ore	13,102	12,559	10,901
Merchandise l.c.l.	82,979	94,593	106,492
Miscellaneous	328,533	339,031	350,023
February 11	568,841	699,442	733,870
February 4	612,524	682,143	746,936
January 28	636,415	679,302	726,345
January 21	618,950	709,837	771,139
January 14	631,018	733,865	808,308
Cumulative total 6 weeks	3,574,695	4,226,096	4,617,408

In Canada.—Carloadings for the week ended February 11 totaled 71,170 cars, compared with 67,737 cars for the previous week, and 72,405 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Loaded Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
February 11, 1950	71,170	29,872
February 12, 1949	72,405	32,909
Cumulative totals for Canada:		
February 11, 1950	387,156	169,087
February 12, 1949	433,065	191,037

February 21 Coal Stocks Averaged 14.4 Days' Supply

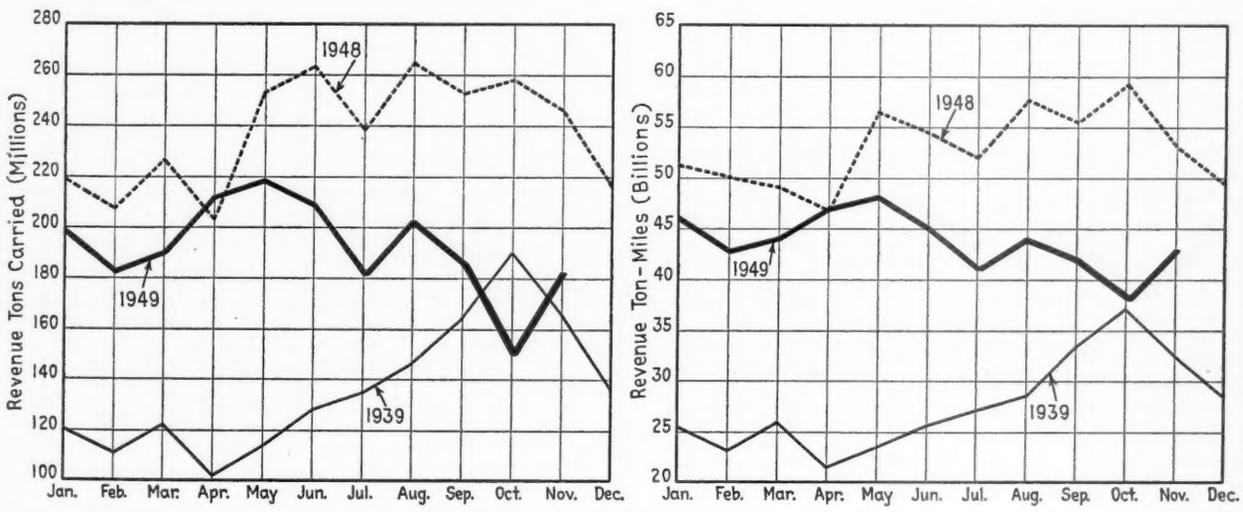
Railroads on February 21 had a 14.4 days' supply of fuel coal overall, according to reports received from the Association of American Railroads by Chairman J. Monroe Johnson of the Interstate Commerce Commission. This compared with a 14.5 days' supply a week earlier.

Meanwhile, the strike of bituminous coal miners was continuing this week; and there remained in effect the I.C.C. service orders requiring a 25 per cent cut in the mileage of coal-burning freight locomotives and a 50 per cent cut in the mileage of coal burners in passenger service. Colonel Johnson had been scheduled to confer about the situation with Chairman Arthur H. Gass of the Car Service Division, A.A.R. on February 21, but it was stated on the afternoon of that day that the meeting had been postponed until February 25.

C. & N. W. Officer Opposes Transcontinental Truck Permit

Granting trucking companies coast-to-coast operating franchises would have an adverse effect upon the adequacy of transportation service rendered the public, R. O. Small, of Chicago, general freight traffic manager of the Chicago & North Western, told an Interstate Commerce Commission hearing at Washington, D. C., on February 16.

Mr. Small appeared as a witness in



Revenue tons and revenue ton-miles—1949 compared with 1939 and 1948

opposition to the application of Pacific Intermountain Express, a trucking company operating between west coast cities and St. Louis and Chicago, to acquire the bankrupt Keeshin Freight Lines, operating between St. Louis and Chicago and eastern seaboard cities.

He said the "mere granting of this application would be such a clear indication of commission policy so adverse to the outlook for railroads as to constitute a powerful deterrent to management in placing orders for new equipment and making betterments." He also asserted the direct effect of that policy would be a further shrinkage in rail freight revenue which would be reflected in a proportionately greater shrinkage in rail net income "which is already inadequate," and added that adoption of a policy of establishing transcontinental truck lines would result in "a flood of applications" for such permits.

Discussing the impact of transcontinental trucking operations on the railroads, Mr. Small said:

"To the extent revenue was needed to replace revenue lost to the trucks or to cover increased costs incurred because of the trucks, and to the extent, if any, commodities not susceptible to truck competition could absorb increases in transportation cost, the railroads would be obliged to seek increases in rates on such commodities. Rate increases do not always produce increases in revenue. To the extent we are unable to recoup our losses from such increases the ability of the railroads to render transportation service would be impaired.

"The railroads serve the entire public. They are the only agency of transportation which does so. Impairment of the ability of the railroads to render transportation service, particularly in the movement of those commodities which must rely upon railroad transportation, constitutes impairment of transportation service to the public."

F. E. Mullen Heads I.C.C. Bureau of Formal Cases

Frank E. Mullen, hearing examiner on the Interstate Commerce Commission's staff, has been appointed chief examiner and thus head of the commission's Bureau of Formal Cases. He succeeds Ulysses Butler, who retired on September 30, 1949 (see *Railway Age* of October 8, 1949, page 78).

The commission's announcement also revealed that it had created in the same bureau a second position of assistant chief examiner to which it had promoted Examiner Felix E. Early. Harold D. McCoy, the other assistant chief examiner, continues in that capacity.

Chicago Board of Trade Enters Reparations Cases

The Board of Trade of Chicago has been authorized by the Interstate Commerce Commission to intervene in the 12 government reparations cases which the commission has assigned for hearings beginning May 15. The cases are among the 17 proceedings which arose out of complaints whereby the Department of Justice is seeking to recover alleged overcharges it claims the railroads made on the government's shipments of various commodities during World War II.

In its petition for leave to intervene the Chicago board said the total of reparations claimed by the government has been estimated at $2 billion. The award of any such sum, it asserted, would "seriously handicap" the railroads in the management of their finances and raise questions as to whether they would be able to make the payment.

The petition also said the board had been informed that the Treasury Department has made a ruling to the effect that any reparations paid by the carriers would not be considered in the adjustment of their tax accounts. Pointing out that railroads paid large sums in income and excess profits taxes during the period when the government traffic involved was moving, the petition suggested that a refund at this time would result in the government "collecting the money twice."

This, it added, would not only be "unjust," but it would force the railroads to appeal to the commission for increased rates to be paid by the shipping public. Such increased rates would be "unjust and unreasonable," in the opinion of the board which has concluded that there exists a "prima facie case preponderantly favoring the carriers and commercial interests parties to these proceedings, all of whom have a vital interest in the stability of the railroads of the country."

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OPENING OUR SECOND CENTURY
1950
THE MILWAUKEE ROAD

Courtesy of Roche, Williams & Cleary, Inc.

STREAMLINED TRAINS VERSUS NERVOUS STRAIN IS THEME OF MILWAUKEE ADVERTISEMENTS.—An advertising test campaign has been launched by the Chicago, Milwaukee, St. Paul & Pacific, wherein the road seeks to capture the patronage of persons who habitually drive their own cars on trips between cities served by the railroad. Advertisements will appear in 204 on-line and off-line newspapers and six national review and business magazines. To be stressed is the restfulness, dependability and safety of travel on the "Hiawathas," especially during the winter months, as compared with the hazards, uncertainties and nervous strain of driving through fog, snowstorms and on slippery highways. Many of the advertisements point out that those who definitely need a car at their destination can conveniently procure one through the rail-auto service

House Group Delays Hearings On St. Lawrence Seaway Pact

The House committee on public works has postponed, from February 27 to April 24, the hearings it will hold on House Joint Resolution 271 which would approve the United States-Canada agreement for development of the proposed St. Lawrence Seaway and power project. The new schedule contemplates that sessions extending over two weeks will be devoted to hearing proponents, after which opposition presentations will be received.

Budd Rail Car on C. & E. I.

The Chicago & Eastern Illinois began a two-week test operation of the Budd Company's Diesel rail car, RDC-1, on February 23. The car will be in revenue service between Chicago and Evansville, Ind., 287 mi. from Chicago to Watseka, Ill., 77.5 mi. The Budd car will be towed by the "Meadowlark," a Diesel-powered streamliner leaving Chicago at 5.10 p.m. for Cypress, Ill. At Watseka, where the "Meadowlark" branches off from the C.&E.I.'s main line, the Budd car will be cut off, and proceed on its own power to Evansville. From Watseka to Danville, the Diesel rail car will operate in substitution for present train No. 15, and from Danville to Evansville it will operate as a new service.

"We want to find out if this type of transportation performs a public service and is acceptable to the public," Clair M. Roddewig, C.&E.I. president, stated, and if the Budd car "will bring back some of the business railroads have lost to other forms of transportation (and if) it is economical to operate a Diesel-propelled single car."

January Operating Revenues 10.8% Below Previous Year

From preliminary reports of 81 Class I railroads, representing 81.6 per cent of total operating revenues, the Association of American Railroads has estimated that January gross amounted to $532,175,492, a decrease of 10.8 per cent below the $596,376,209 reported for the same 1949 month. Estimated

January freight revenues was $433,742,076, as compared with January, 1949's $484,588,157, a decrease of 10.5 per cent. Estimated passenger revenue was $56,687,878, as compared with $66,854,962, a decrease of 15.2 per cent. All other revenue was down 7.1 per cent—$41,745,538, as compared with $44,933,090.

C.N.R. Officer Dedicates Transport Museum Exhibit

A Canadian National permanent exhibit in the transportation museum of the New York Society of Model Engineers, Inc., was dedicated in Hoboken, N. J., last week by W. H. Hobbs in his first public appearance as the road's vice-president of personnel, which appointment was announced in Montreal, Que., on February 15 and is reported elsewhere in this issue.

The C. N. exhibit includes illuminated train tail signs featuring the "Continental Limited," the "International Limited" of the Grand Trunk Western and the "Montrealer" of the Central Vermont, as well as a large framed map of Canada showing C.N.R. lines. The exhibit was accepted in behalf of the society by its secretary, George R. Brackmann.

"Q" Passenger Service Nears 100 Per Cent Dieselization

The recent addition of seven 2,250-hp. Diesel-electric locomotives has permitted the Chicago, Burlington & Quincy to Dieselize 93.4 per cent of its regular passenger train operations. Harry C. Murphy, president, points out that "this is especially impressive when it is remembered that less than 16 years have elapsed since the Burlington introduced America's first Diesel streamline train in 1934."

Seaboard Stages Florida Cattle Tour

On February 14-15 the agricultural department of the Seaboard Air Line conducted an inspection tour of the rapidly expanding Florida cattle industry. More than 150 cattlemen from 14 states and Canada made the tour, which was conducted by F. P. Abbott, assistant general agricultural agent.

The visitors viewed a number of ranches; a large herd of pure-bred Brahman cattle at the Norris ranch, Anthony, Fla.; a Plymouth, Fla., feed mill which turns out cattle-feed made of ground citrus-pulp mixed with molasses after the juice has been extracted, and is part of a fast-growing Florida industry, and the Range Cattle Experiment Station at Ona, Fla., where various types of grass and clover pastures were inspected, as well as crosses of Brahmas with other breeds of cattle.

At Brighton, Fla., pastures on sand and muck lands were observed and brief talks on cattle were made at a barbecue luncheon at which locally raised beef was served. Near Brighton, the party rode through the Seminole Indian reservation to inspect the tribal herd of Hereford cattle and also through the Lykes' bull pastures containing some 900 head of Angus and Brahman herd bulls.

At a dinner held at Lake Wales, Fla., common problems were discussed at length, as well as the somewhat unusual pasturage methods used in Florida.

Norfolk & Western Magazine

ROAD BLOCK—AMERICAN STYLE—The U. S. Bureau of Public Roads says that one big truck in hilly terrain is equal to as many as eight vehicles on the highway because of the "road block" it presents to normal flow of traffic in slow uphill climbs. The bureau also has pointed out that if a modern two-lane road in hilly terrain is designed for a capacity of 450 passenger cars an hour, today's average truck use of the highway will reduce the traffic flow by half. This means that double the number of lanes must be built to handle the same amount of motorist traffic

I. C. Again Takes Top Safety Honor Among Large Railroads

The Illinois Central in 1949 achieved the best employee safety record among major U. S. railroads, with a ratio of 2.63 reportable injuries for each million man-hours worked. This accomplishment was an improvement of 19 per cent over the road's 1948 performance, according to Wayne A. Johnston, president. The National Safety Council has cited the I. C. for outstanding safety records on six occasions since 1943, and awarded the Employees National Safety Contest Award to the road in 1946 and 1948.

"We are striving to make 1950 the best year in safety in the history of the Illinois Central, not only as regards employees but in casualties to passengers and trespassers and in accidents at highway-rail intersections," declared Mr. Johnston. "A plan of action has been cutlined and is being actively progressed on all divisions."

Milwaukee Centennial "Diary" Tells Engaging Tale of Progress

In connection with its centennial being celebrated this year, the Chicago, Milwaukee, St. Paul & Pacific has issued a 48-page booklet entitled "Four Generations on the Line." The publication not only weaves an interesting story of the railroad's first 100 years, but also includes many choice and highly readable historical items not related directly to the road. Some 75,000 copies of the booklet are being distributed among Milwaukee employees, to schools on the line, at community meetings being conducted in observance of the centennial, and to newspapers.

The narrative begins on November 20, 1850, with excerpts from a farmer's diary. The initial entry tells of the author walking from his farm to nearby Milwaukee, Wis., and witnessing the Milwaukee & Mississippi test its first tracks and train. The story subsequently progresses through the diaries of the farmer's son (a telegraph operator at St. Paul, Minn.) and the latter's son (a merchant at Aberdeen, S. D.). The final 25-year period covered, 1925-1950, is told by means of letters exchanged between the father and son representing the third and fourth generations of the family.

ORGANIZATIONS

Francis C. Tighe, traffic manager of Union Carbide & Carbon Corp., has been elected chairman of the Transportation Committee, **Compressed Gas Association**. Clarence S. Simpson, E. I. du Pont de Nemours & Co., Wilmington, Del., has been elected vice-president of the association.

W. B. Holton, Jr., president of the Walworth Company, New York, was reelected president of the **Valve Manufacturers Association** at its annual meeting on February 16. Ernest Cochran, vice-president of the Chapman Valve Manufacturing Company, Indian Orchard, Mass., and Charles W. Burrage, secretary of the Lunkenheimer Company, Cincinnati, Ohio, were reelected vice-

presidents; Wayne Young, president of the Ohio Injector Company, Wadsworth, Ohio, was elected a vice-president; and George A. Cooper of New Rochelle, N. Y., was reelected secretary-treasurer.

The **New York Institute of Finance** is offering, as one of the investment analysis courses at its spring term, a study of "Current Developments in Selected Railroads," to be conducted by Pierre R. Bretey, railroad analyst for the New York Stock Exchange firm of Baker, Weeks & Harden. The course will meet on Monday evenings for 10 weeks, beginning April 3. The fee is $20, and applications for enrollment may be sent to the institute at 20 Broad street, New York 5. Railroads to be analyzed will be determined by vote of students enrolled.

A forum discussion on railroads is included in the program of the third annual convention of the **National Federation of Financial Analysts Societies** to be held at the Statler Hotel, New York, on March 2. Pierre R. Bretey, railroad analyst for Baker, Weeks & Harden, will act as chairman of the forum, while scheduled speakers are James G. Lyne, editor of *Railway Age*, on "What Is Competition Doing to Railroad Traffic and Rates?"; Frederic Uhrbrock, of Vilas & Hickey, on "Improved Finances of Railroads"; Perry M. Shoemaker, vice-president of the Delaware, Lackawanna & Western, on "Operating Economies from Improved Technologies"; and Walter F. Hahn, of Smith, Barney & Co., on "Which Rails in 1950?"

Robert J. Bayer, editor of Traffic World, will address the luncheon meeting of the **Trans-Missouri-Kansas Shippers Board** on March 22, at the DeSoto Hotel in St. Louis, Mo. His subject will be "The Silent Disaster."

SUPPLY TRADE

Erskine W. Manterfield has been appointed director of public relations and advertising for the **American Locomotive Company**, to succeed **Holmes Brown**, who has resigned to accept appointment on the staff of Colonial Williamsburg, Inc. Mr. Manterfield formerly was in charge of public relations activities for the company's Alco products and railway steel spring divisions, as well as for Alco's Canadian affiliate, Montreal Locomotive Works.

John L. Taylor, formerly Chicago district manager and manager of the central division of the **Edwards Company**, Norwalk, Conn., has been appointed sales manager.

The **Huck Manufacturing Company** has announced the promotion of **Robert N. Hendrickson** to vice-president in charge of sales engineering and the appointment of **Frank A. Dobbe** as vice-president in charge of sales. Mr. Dobbe formerly was manager of sales for the South Chester Corporation.

G. T. Richmond, assistant sales manager of the railroad sales division of the **McBee Company**, has been appointed sales manager of the division, with headquarters as before at St. Louis, Mo.

The **General Electric Company** has announced four appointments to sales positions in its commercial equipment division, as follows: **F. P. Barnes**, sales manager of broadcast equipment; **L. W. Goostree, Jr.**, sales manager of communication equipment; **H. M. Wales**, sales manager of marine and aviation equipment; and **N. Gada**, assistant to the manager of sales.

J. M. Spangler, formerly director, vice-president and general manager of the National carbon division of the **Union Carbide & Carbon Corp.**, has been appointed president of the division, after 35 years of service. Mr. Spangler joined National Carbon in 1915, when his first

J. M. Spangler

assignment was contacting railway purchasing agents. In 1923, he was placed in charge of the company's Chicago sales office, and, 10 years later, advanced to general sales manager. He was appointed vice-president in charge of sales in 1943 and vice-president and general manager in 1944.

John H. Elliott, general superintendent of the **Carnegie-Illinois Steel Corporation's (United States Steel Corporation** subsidiary) Irvin works, near Dravosburg, Pa., has been promoted to assistant general manager of operations. Succeeding Mr. Elliott is **Arno L. Billeter**, assistant general superintendent at the Irvin works.

The **Waugh Equipment Company** has acquired control of the **O. C. Duryea Corporation**, manufacturers of the Duryea cushion underframe, with the intent to merge Duryea with the **Hulson Company** and operate it as a division thereof. When the merger is effected, **V. R. Weiss**, now president of the Duryea corporation, will be elected a director of the Hulson Company. Existing engineering and service facilities of Duryea will be continued and augmented by those of Hulson.

George A. Dauphinais, formerly plant manager of the **H. K. Porter Company** at Pittsburgh, Pa., has been appointed works manager of the **Quaker Rubber Corporation**, Philadelphia, Pa., a newly acquired division of H. K. Porter.

T. W. Marx has joined the Republic rubber division of the **Lee Rubber & Tire Corp.** as sales representative in the Pacific Northwest. With headquarters in Portland, Ore., his territory will include Oregon, Washington, northern Idaho and part of Montana. Mr. Marx was formerly associated with Aluminum Builders Supply.

Samuel MacClurkan has been appointed manager of railway sales, a newly created position, for the **Pyle-National Company**, with offices in the Railway Exchange Building, 80 East Jackson blvd., Chicago. Mr. MacClurkan was formerly associated with the American Arch Company.

Dean Uhll, western division service manager for the **Caterpillar Tractor Company**, Peoria, Ill., has been appointed export service manager, relieving **Ralph G. Dunn**, assistant general service manager, who for many years has held that position in addition to his other administrative duties. Appointed to succeed Mr. Uhll is **Harrison Welch**, eastern division service manager, who is replaced by **D. L. Lammers**, a member of the service development division.

ABANDONMENTS

Application has been filed with the Interstate Commerce Commission by:

Atlantic Coast Line.—To abandon 57.5 mi. of line between Alma, Ga., and Anguilla, not including the trackage at either of these points. The A.C.L. said this line is closely paralleled by the main line of the A.C.L.'s southern division, and that the Alma-Anguilla line "is and for some time has been unremunerative."

Division 4 of the I.C.C. has **authorized**:

Chicago, Burlington & Quincy.—To abandon approximately 23.4 mi. of branch line between Kirksville, Mo., and Green City. In its report the I.C.C. said two bus lines and 13 common-carrier truckers serve stations on the line, and added that the "wide use of motor trucks has evidently been the cause of the decline in traffic over the line." Both Kirksville and Green City will continue to be provided with rail service.

Duluth, Missabe & Iron Range.—To abandon 3.87 mi. of branch line in St. Louis and Lake counties, Minn. The branch, which originally served logging

operations, has not been maintained for traffic for five years.

Mississippi & Alabama.—To abandon operations over approximately 17 mi. of line between Vinegar Bend, Ala., and Leakesville, Miss. The line is owned by the Leakesville Investment Company. The M.&A.'s only locomotive was taken out of service December 12, 1949, "because of the lack of cash or credit to make repairs necessary to comply with the law."

St. Louis-San Francisco.—To abandon approximately 8.2 mi. of branch line between Mt. Vernon, Mo., and the end of the line at Miller. The I.C.C. report noted the tri-weekly freight service over the line has been provided at a loss for the past four years.

EQUIPMENT AND SUPPLIES

Equipment on Order

Class I railroads and railroad-owned and controlled refrigerator car lines ordered 7,233 new freight cars in January, thus bringing to 19,259 cars the total on order on February 1, according to the Association of American Railroads. On February 1, 1949, the same roads and car lines had 86,670 cars on order.

Locomotives on order February 1 by Class I roads totaled 1,142, including 1,126 Diesel-electrics, 12 steam and 4 electrics. On February 1, 1949, there were on order 1,563 locomotives, including 1,490 Diesel-electrics and 73 steam.

The 19,259 freight cars on order February 1 included 14,120 to be built in railroad shops, and 5,139 on order from contract builders. The breakdown by types of cars was: Box, 7,511; gondolas, 3,255; open-top hoppers, 3,054; covered hoppers, 1,285; flat, 1,911; refrigerator, 1,743; and stock, 500.

Freight cars placed in service in January totaled 2,323, compared with 7,533 installed in January, 1949. Locomotive installations were 101 and 136, respectively. The former figure included 100 Diesel-electrics and 1 steam, while the latter included 129 Diesel-electrics and 7 steam.

SIGNALING

The **Atlantic Coast Line** has ordered from the Union Switch & Signal Co. material to install centralized traffic control on 131 mi. of single track between Manchester, Ga., and Fitzgerald. A 15-ft. style C control machine will be installed at Manchester, division headquarters. In addition to the code and carrier equipment, the order includes style H-2 searchlight signals and N-2 dwarf signals; M-22 B electric switch machines; T-21 switch stands; and SL-25 locks, relays, rectifiers, transformers, etc., with necessary housings. Field installation will be handled by railroad forces.

The **Canadian National** has ordered equipment from the General Railway Signal Company for installation of absolute permissive block signaling between Red Pass, B. C., and Jackman, 29 mi. Thirty-two type SA signals will be used.

The **Minneapolis, St. Paul & Sault Ste. Marie** has ordered equipment from the General Railway Signal Company for the installation of absolute permissive block signaling on 67.8 mi. of single track between Waukesha, Wis., and Wheeling, Ill. Type SA searchlight signals, type W marker lights, model 7 switch circuit controllers and type K relays will be used.

PASSENGER CARS

North Western May Purchase Three Budd Diesel Rail Cars

The board of directors of the Chicago & North Western has authorized the road's management, if it so chooses, to purchase three Budd Diesel rail cars. The orders had not been placed as this issue of *Railway Age* went to press, but, as reported elsewhere in this issue, bids have been requested for the purchase of equipment trust certificates covering the cost of the cars. As noted in the *Railway Age* of February 18, page 68, the North Western tested the Diesel car on its Chicago suburban lines. The results of the tests are not yet available.

IRON & STEEL

The **Florida East Coast** has ordered 16,500 net tons of rail from the Tennessee Coal, Iron & Railroad Co. and 1,000 net tons from the Bethlehem Steel Company.

The **Pittsburgh & West Virginia** has ordered 1,012 tons of rail from the Carnegie-Illinois Steel Corporation.

CONSTRUCTION

M. P. to Spend $5,399,600 For 1950 Improvements

A $5,399,600 program for improvements to Missouri Pacific Lines' properties during 1950 was authorized on February 20 by the federal district court at St. Louis, Mo. Major items in the program include installation of cab-to-caboose radio in 53 Diesel freight locomotives and 58 cabooses, and the building of a new freight terminal at St. Louis costing $1,500,000. Equipping of the locomotives and cabooses with radio is expected to cost $164,000. Train radio on the M. P. has been under test for over two years between Alexandria, La., and McGehee, Ark. Within the next 30 days four freight Diesels and four cabooses, operating between St. Louis and Kansas City, will be radio equipped.

The new freight terminal will replace two stations which have been in operation for many years. It is to be located on a tract of land bounded by Kosciusko street on the west, Carroll street on the south, Miller street on the north and the railroad's present Lesperance Street yards on the east. As part of the realinement program nearing completion on the Missouri division, $218,000 will be spent to extend centralized traffic control southward from Mill Spring, Mo., to Poplar Bluff, and to make certain track rearrangements required for operation of the c.t.c. Other expenditures will be made for the installation and improvement of additional yards, tracks and sidings, telephone and telegraph lines, roadway machines, and mechanical equipment for handling merchandise traffic at freight stations.

Florida East Coast.—This road has authorized removal of a bridge at Palatka, Fla., at a probable cost of $50,000. (See *Railway Age* of December 3, 1949, page 68.)

New York, New Haven & Hartford.—This road's passenger station at Cohasset, Mass., is under agreement to be sold and shortly will be replaced by a modern business block, it has been announced by the New Haven and William E. Poland of Cohasset, the purchaser. Mr. Poland, a Cohasset businessman who operates a filling station in the town, also has agreed to purchase about a half acre of the station grounds, the announcement stated. The modern, colonial-style business building which Mr. Poland will have erected on the site will contain three stores and also another portion on which the New Haven has taken rights in perpetuity. This will provide a new ticket office, waiting room and retiring room facilities for train patrons. The new building, construction of which will be handled by the office of Ione R. Lowrance of Hingham, will house a super-market and other stores on Pleasant street. The new station grounds development will tie in with the recent purchase by the town of a lot of land on the opposite side of Pleasant street which will be developed for a public parking space.

The New Haven station at Needham, Mass., and about 15,000 feet of the adjoining grounds also is under agreement to be sold. The station will be torn down and replaced by a modern brick and stone business block, containing four stores and also railroad station facilities. The sale includes the portion of the station property which now houses a filling station. The railroad, the announcement stated, will negotiate with the town authorities seeking to establish, on railroad-owned property adjacent to the plot which has been sold, a public parking space for use by railroad passengers and patrons of the stores which the new building will house. The new struc-

ture, one-story in height, will have a 115-ft. frontage on Great Plain avenue, with a 12-ft. vehicle driveway through it, for use in entering the proposed public parking lot. Construction of the new facilities will start within a short time. The New Haven will have a lease in perpetuity of the portion of the new Needham building which will house the New Haven's ticket office, waiting room, retiring room and other facilities for railroad patrons.

New York, Susquehanna & Western.—This company plans to ask the Interstate Commerce Commission for authority to construct a direct connection between its lines and those of the Pennsylvania in the vicinity of Marion Junction, N. J., for the purposes of reducing its operating expenses and improving its freight service to and from the south and west. The connection is expected to cost approximately $1,200,000 and to require a year or more to build.

Reading.—This road has awarded a contract to the J. C. Shawfield Company, Harrisburg, Pa., for Diesel fueling and inspection facilities at Rutherford, Pa. The estimated cost of the project is $40,000.

FINANCIAL

Cedar Rapids & Iowa City.—*Acquisition.*—The C.R.&I.C. is asking for I.C.C. authority to acquire electric railway properties now owned by Iowa Electric Light & Power Co. The C.R.&I.C., which now owns no railroad property, would remain as a wholly owned subsidiary of the power company. It would issue a $750,000 promissory note and 1,000 shares of common stock with no par value but with a stated value of $500,000, all to go directly to the power company. In return the road would acquire 27.15 mi. of single track line between Cedar Rapids, Ia., and Iowa City, approximately 21 mi. of sidings and yard tracks, and other equipment and facilities for operating the line. A joint application filed by the power company said that separation of the railway properties in this manner was desirable to avoid duplication in regulation by various state and federal commissions.

Great Northern.—*Trackage Rights.*—This road is asking I.C.C. permission to enter a trackage rights agreement with the Union Pacific through which the G.N. would acquire operating rights over 32.3 mi. of U.P. track between Spokane, Wash., and Fairfield. At the same time, the G.N. is seeking authority to abandon its own 22.8 mi. line between Spokane and Mount Hope, near Fairfield. The G.N. would use the U.P. trackage by constructing a 470-ft. line in Spokane, to connect with the U.P. at that point, and by building a similar connecting track of 2.8 mi. between West Fairfield and Fairfield at the other end of the line. The G.N., in its application to abandon its own trackage, said 7 of the 15 bridges in the segment would require major repairs within the next five years, and that traffic originating or destined for that line was not sufficient to warrant such repairs. The application also said final agreement with the U.P., covering use of the latter road's tracks, has not yet been completed, but added that when available a copy of the agreement will be submitted to the commission.

Maine Central.—*Mahaffie-Act Application Denied.*—Division 4 of the Interstate Commerce Commission has denied this road's application for authority to modify its outstanding preferred stock under provisions of section 20b of the Interstate Commerce Act (the so-called Mahaffie Act). In ruling adversely on the application, in Finance Docket No. 16290, the division rejected the recommended findings of a proposed report by Examiner John L. Bradford who would have approved the plan with some amendments proposed by a committee representing interested preferred stockholders (see *Railway Age* of June 11, 1949, page 64).

The stock involved is a 30,000-share issue of 5 per cent cumulative preferred, par value $100 a share, on which no dividends have been paid since December 1, 1931. The unpaid dividends totaled $85 a share on December 1, 1948. The road proposed to liquidate this liability by increasing the par value of each preferred share to $185 and making the dividend rate on that amount 4 per cent, the dividends to remain cumulative but to become payable semi-annually instead of quarterly.

The division's denial of the application was based on findings that the road's financial condition did not qualify it for section 20b relief; and that the proposed stock-modification plan would not meet requirements of the section. Evidence as to M.C. earnings indicated to the division that the road was in a position to resume payment of the preferred dividend and to begin also payments on the accumulated dividends. It noted that the modification plan contemplated annual payments equivalent to $7.40 per share on the present stock, i.e., 4 per cent on the proposed new par value of $185. This proposal, as the report put it, showed not only that the road "is now in position to resume payment of dividends at the contract rate [$5 per share] but also that it can apply yearly no less than $2.40 per share toward liquidating accumulated dividends."

Noting that the road did not contend the proposed modification was necessitated by any threat of insolvency, the division went on to say that the M.C.'s "most important financial problem" is the "timely provision for payment or refunding of its funded debt obligations," which were scheduled to mature in the aggregate amount of $13,533,500 in the period 1949 to 1955. Removal of preferred dividend arrearages, unrestricted by any provision to prevent payment of dividends on common stock until maturities are met, "would put the applicant's common stockholders in a position to weaken rather than improve its financial position and its credit," the report also said. It cited testimony to the effect that the applicant's directors who hold common stock "would refuse, if given a chance to vote, to assent to the applicant's plan if it contained a prohibition against their receiving dividends prior to the solving of the maturity problem." After additional discussion which further tested the application on the basis of section 20b standards and found it wanting, the division led into its adverse finding with this comment:

"The chief purpose of section 20b is to afford carriers subject to its provisions means whereby they may avoid financial difficulties or remove obstacles to needed financing which can not be avoided or removed by voluntary action on the part of the carrier or by agreement between the carrier and its security holders. Its provisions are not to be lightly invoked. Under these provisions we are called upon to set aside and nullify provisions of valid, subsisting contracts. We are not to assume that Congress intended that we should exercise such powers except upon a clear and affirmative showing that the proposal submitted for our consideration is within the purpose of the statute and meets its requirements. Immediate removal of dividend arrearages, which a carrier is in a position to liquidate but which it can not liquidate except over a long period of time, might well come within the purposes of section 20b and be shown to meet the requirements of that section, where such removal would enable the carrier to resort to equity financing or otherwise aid it in solving its financial problems in the public interest. Here there is no such proposal.

"The evidence strongly supports the [preferred-stockholder] committee's contention that the chief purpose of the applicant's proposal is to afford the common stockholders immediate access by way of dividends to the applicant's present accumulation of surplus and its prospective earnings. The applicant's proposal follows a well-established pattern which students of the subject have found is generally used in proposals for the liquidation of dividend arrearages on preferred stock, and which is primarily for the benefit of the common stockholders. The applicant is a company wherein the directors have unusually large holdings of common stock. At the time of the hearing the directors of the company as a group owned 48,083, or 40.1 per cent of the total number of shares outstanding. In 1940 applicant's directors owned 14,626 shares, or 12.2 per cent of the common stock. The directors and relatives of one of the directors now own in all more than 56,000 shares, or 46.9 per cent of the stock.

"Everything which the applicant can accomplish by the proposed modification . . . except the immediate removal of the obstacle to the payment of dividends on the common, can be accomplished by a resumption of dividends on the pre-

ferred and the liquidation of arrearages as net income will permit. We are here asked to approve. . .what amounts to an issue of additional preferred stock of the par value of $2,550,000 and to modify the provisions of $3,000,000 of preferred stock now outstanding. . .On the record before us we are unable to make the finding required by either section 20a or section 20b."

New York, Ontario & Western.—*Protective Committee.*—The I.C.C. has approved, with certain conditions, the formation of a refunding-mortgage bondholders' protective committee in connection with this road's reorganization proceedings. The committee will have as its members E. Frederic Uhrbrock, Adolf Friedeberg, William Kidd, Milton S. Koblitz, and David Lewis; it proposes to solicit power-of-attorney authorizations from holders of the refunding-mortgage bonds and represent the bondholders throughout the N.Y.,O.&W. reorganization proceedings. There are $20,000,000 of the refunding bonds outstanding. Conditions imposed by the commission include a specification that no member of the committee may "hereafter become pecuniarily interested . . . directly or indirectly, in any of the assets of the debtor," other than selling bonds now held, or acquiring new securities as a gift, inheritance, or in payment for or security for debts. The commission also directed the committee to file a report on the first of each month.

Southern.—*Acquisition of Richmond & Mecklenburg.*—The I.C.C. has reopened for further hearing the Southern's application for authority to acquire the R.&M. A report made by Examiner J. S. Pritchard had recommended to the commission that the application be denied because the prospective continuance of deficit operations by the 31.2 mi. line would constitute such a drain on the resources of the Southern that the purchase would be "sheer economic waste." (See *Railway Age* of January 14, page 49). It was after this recommended report by Examiner Pritchard that the Southern asked that further hearings be held in order that it might present additional evidence.

New Securities

Applications have been filed with the Interstate Commerce Commission by:

Chicago & North Western.—To assume liability for $7,065,000 of equipment trust certificates to finance in part 54 Diesel-electric locomotives and three Diesel rail cars at an estimated total cost of $8,846,878. The equipment was listed in the application as follows:

	Description and Builder	Estimated Unit Cost
30	1,500-hp. freight-locomotive "A" units (Electro-Motive Division, General Motors Corporation)	$166,000
4	2,250-hp. passenger-locomotive "A" units (Electro-Motive)	235,100
5	1,600-hp. road switchers (Fairbanks, Morse & Co.)	164,704
3	1,600-hp. road switchers (American Locomotive Company)	174,562
2	1,200-hp switchers (Fairbanks, Morse)	99 256
10	1,000-hp. switchers (American) ..	99,256
3	Diesel rail cars (Budd Company)	129,400

The certificates, to be dated April 1, would be sold on the basis of competitive bids, which would determine the interest rate and whether the maturities would be over a 10- or a 15-year period.

Chicago, St. Paul, Minneapolis & Omaha.—To assume liability for $915,000 of equipment trust certificates to finance in part seven Diesel-electric locomotives, including six 1,500-hp. "A" freight units from the Electro-Motive Division, General Motors Corporation, at an estimated cost of $166,042 each, and one 1,600-hp. road switcher from Fairbanks, Morse & Co. at an estimated cost of $165,344. The application put the estimated total cost of the equipment at $1,161,596. The certificates, to be dated April 1, would be sold on the basis of competitive bids, which would determine the interest rate and whether the maturities would be over a 10- or 15-year period.

Southern Pacific.—To issue not exceeding $37,727,600 of convertible debenture bonds and 754,552 shares of common stock, the latter to be issued as required to provide for conversion of the bonds. Proceeds of the bond issue would reimburse the applicant in part for expenditures made in connection with the redemption of July 1, 1946, of an issue of 3¾ per cent "secured bonds." The application stated the road would apply the cash to its 1950 program of additions and betterments or to other corporate purposes. The 1950 program, it explained, contemplated outlays totaling about $97,329,000, exclusive of payments on equipment delivered before January 1.

The convertible debentures, dated April 1, would be due April 1, 1960. Their indenture would contain sinking-fund provisions, and they would be redeemable for that purpose at par and accrued interest. They would be redeemable at the option of the applicant at prices ranging from 102 up to and including March 31, 1951 to par on and after March 31, 1959. The proposed stock issue would be from the 2,171,754 shares which the S.P. now has authorized but unissued. The shares would be without par value, but the conversion price would be $55, subject to adjustments. Conversion would be on the basis of 2 shares of stock for each $100 of debentures with cash or scrip adjustments to the prevailing conversion price. Stockholders of record as of the close of business on March 10 would be offered the privilege of subscribing to the debentures, and competitive bids would be invited on the underwriting of the proposed offer to stockholders. The bonds for which stockholders did not subscribe would be sold on the basis of competitive bids. The bids would also determine the interest rate.

Dividends Declared

Bangor & Aroostook.—5% preferred $1.25, quarterly, payable April 1 to holders of record March 7.

Canadian Pacific.—75¢, payable (in Canadian funds) March 31 to holders of record February 24.

Chicago, Rock Island & Pacific.—common, 75¢, quarterly; 5% preferred A, $1,25, quarterly both payable March 31 to holders of record March 15.

Erie & Pittsburgh.—7% guaranteed. 87½¢, quarterly, payable March 10 to holders of record February 28.

Philadelphia, Germantown & Norristown.—$1.50, quarterly, payable March 4 to holders of record February 20.

St. Louis Southwestern.—5% preferred, $5.00, annual, payable March 3 to holders of record February 24.

Southern Pacific.—$1.25, quarterly, payable March 20 to holders of record February 27.

Wabash.—common, $1.00; 4½% preferred, $4.50, annual; both payable April 20 to holders of record March 31.

Average Prices Stocks & Bonds

	Feb. 20	Prev. week	Last year
Average price of 20 representative railway stocks	42.68	41.19	39.53
Average price of 20 representative railway bonds	92.06	91.88	87.94

Investment House Publications

[The surveys listed herein are, for the most part, prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Dreyfus & Co., 50 Broadway, New York 4.

Missouri Pacific. Reorganization plan. February 15.

H. Hentz & Co., 60 Beaver st., New York 4.

What Is in Store for Railroad Securities. Address by Mason Bogen, railroad analyst for H. Hentz & Co., before the seminar in economic trends affecting the securities markets of the New York group of the Investment Bankers Association of America and the Graduate School of Business Administration, New York University.

Vilas & Hickey, 49 Wall st., New York 5.

Seaboard Air Line Railroad Company. February 10.

RAILWAY OFFICERS

EXECUTIVE

H. R. Tinkelpaugh, assistant to the general manager of the Chicago, Rock Island & Pacific, at Chicago, has been appointed assistant to the vice-president—operations at that point.

Robert N. Nash, assistant to vice-president, Traffic Department, Association of American Railroads, will retire from that position on February 28. Mr. Nash, who will be 70 years old on February 26, has been in railroad service since 1898 and in his present position with the A.A.R. since December 1, 1934.

W. H. Hobbs, secretary of the Canadian National, has been appointed vice-president, personnel, with headquarters as before at Montreal, Que. The naming of Mr. Hobbs to this new post is to carry out the management's policy of modernizing the planning activities of the personnel department of the C.N.R., which has more than 100,000 employees. **R. C. Johnston**, assistant vice-president, personnel, will continue to conduct labor relations.

Mr. Hobbs was born at Bletchley,

England, in 1891 and joined the Grand Trunk (now C.N.R.) in the office of the financial vice-president at Montreal in 1913, after a few years work with an English railway. From 1914 to 1922 he served as secretary to the president of the Grand Trunk and Grand Trunk Pacific (now also C.N.R.). In 1922 he became secretary to the chairman and president of the newly formed Canadian

W. H. Hobbs

National system. Mr. Hobbs was appointed assistant secretary of the C.N.R. and its numerous subsidiaries in 1932 and became secretary in 1935. He was appointed secretary of Trans-Canada Air Lines upon the incorporation of that company in 1937 and was also the secretary of several other companies affiliated with the C.N.R., among which were Canadian National (West Indies) Steamships, Ltd., and the Northern Alberta and Toronto Terminals railways.

FINANCIAL, LEGAL & ACCOUNTING

L. I. Tefft, tax commissioner, Pere Marquette district, Chesapeake & Ohio, at Detroit, Mich., has retired after more than 32 years of service. **R. W. Mason**, special assistant, tax department, will handle matters formerly under the jurisdiction of Mr. Tefft.

D. I. Grant, assistant secretary of the Canadian National, has been appointed secretary, with headquarters as before at Montreal, Que., succeeding **W. H. Hobbs**, who has been promoted to vice-president, personnel.

OPERATING

Thomas J. Seale, superintendent of organization of the Railway Express Agency at Atlanta, Ga., since January, 1948, has returned to his former post of superintendent, New Orleans division, succeeding **H. J. Shannon**, granted a leave of absence.

F. E. Wheeler, acting superintendent of the Chicago division, Chicago, Rock Island & Pacific, has been appointed superintendent of that division, with headquarters at Blue Island, Ill., succeeding **Walter Heide**, who has retired. **Mr. Heide** was born in Chicago on August 30, 1888, and received his education at West Harvey, Ill., and Blue Island public schools, entering railroad service in May, 1902, as a messenger boy in the Rock Island's transfer house at Blue Island. Subsequently he served successively as train crew caller, switch tender and switchman until 1915, when he became yardmaster at the road's Burr Oak (Ill.) yards. Four years later he was appointed assistant general yardmaster and in 1923 was promoted to general yardmaster. He was advanced to trainmaster in 1933, being appointed acting superintendent in 1939 and superintendent at Blue Island in January, 1940.

W. L. Wilson, superintendent of the Canadian Pacific at Saskatoon, Sask., has been appointed assistant superintendent, Portage division, succeeding **A. F. Fryers**, transferred.

E. W. Hobbs, trainmaster of the New York Central at Englewood, (Chicago) Ill., has been advanced to assistant to assistant general manager at Indianapolis, Ind. Promoted to succeed Mr. Hobbs is **A. J. Wayne**, general yardmaster at Englewood.

TRAFFIC

E. L. Woodcock, commercial agent of the Norfolk & Western at Oklahoma City, Okla., has been appointed general agent there, effective March 1.

Charles J. Fischer, general agent of the Western Pacific at Klamath Falls, Ore., has been transferred to Reno, Nev., succeeding the late **Bert Hazlett**. **Frank M. Rowe**, traffic representative at Oakland, Cal., succeeds Mr. Fischer.

MECHANICAL

G. L. Galloway, superintendent motive power and car equipment of the Northern Ontario district of the Canadian National at North Bay, Ont., has been transferred to the Montreal district at Montreal, Que., succeeding **W. S. Davis**, who has been transferred to the Southern Ontario district at Toronto, Ont., to succeed **J. W. Bailey**, who has retired on pension. Mr. Bailey was born at Liskeard, Cornwall, England, on February 15, 1885, and entered railroad service on February 3, 1904, as fireman with the C.N. at Fort Erie, Ont., later serving successively as machinist and leading hand machinist there; locomotive foreman at Lindsay, Ont.; general foreman at Deering, Me.; night foreman at Longue Point, Ont.; locomotive foreman at Allendale, Ont., and general foreman, motive power shop, at Montreal. Mr. Bailey subsequently became superintendent of that shop, transferring to the Stratford, Ont., motive power shop in February, 1939. He was appointed superintendent motive power and car equipment of the Southern Ontario district at Toronto in May, 1944.

A. G. Hoppe, general superintendent of the locomotive department, Chicago, Milwaukee, St. Paul & Pacific, at Milwaukee, Wis., and **F. L. King**, mechanical superintendent—Diesel and electric power, have been relieved, at their own request, from their present assignments. Mr. Hoppe has been appointed engineer of research and development, with jurisdiction over the mechanical engineer and test department, and with such other duties as may be assigned. **F. W. Bunce**, mechanical superintendent of steam power, becomes superintendent of motive power, with headquarters as before at Milwaukee. The offices of general superintendent of locomotive department, mechanical superintendent of steam power, and mechanical superintendent of Diesel and electric power have been abolished.

PURCHASES & STORES

G. H. Eastham has been appointed district storekeeper of the Chicago, Burlington & Quincy, with headquarters at Chillicothe, Mo. He will be in charge of material procurement for the new Missouri "Centennial cutoff" line.

Frank J. Murray, assistant purchasing agent of the Lehigh Valley, has been appointed purchasing agent, with headquarters as before at New York, succeeding the late **Edgar A. Jones**, whose death on February 11 was reported in the *Railway Age* of February 18.

OBITUARY

George A. Ehmer, auditor of the Association of Western Railways at Chicago since 1933, died on February 14, at Indianapolis, Ind., where he was visiting.

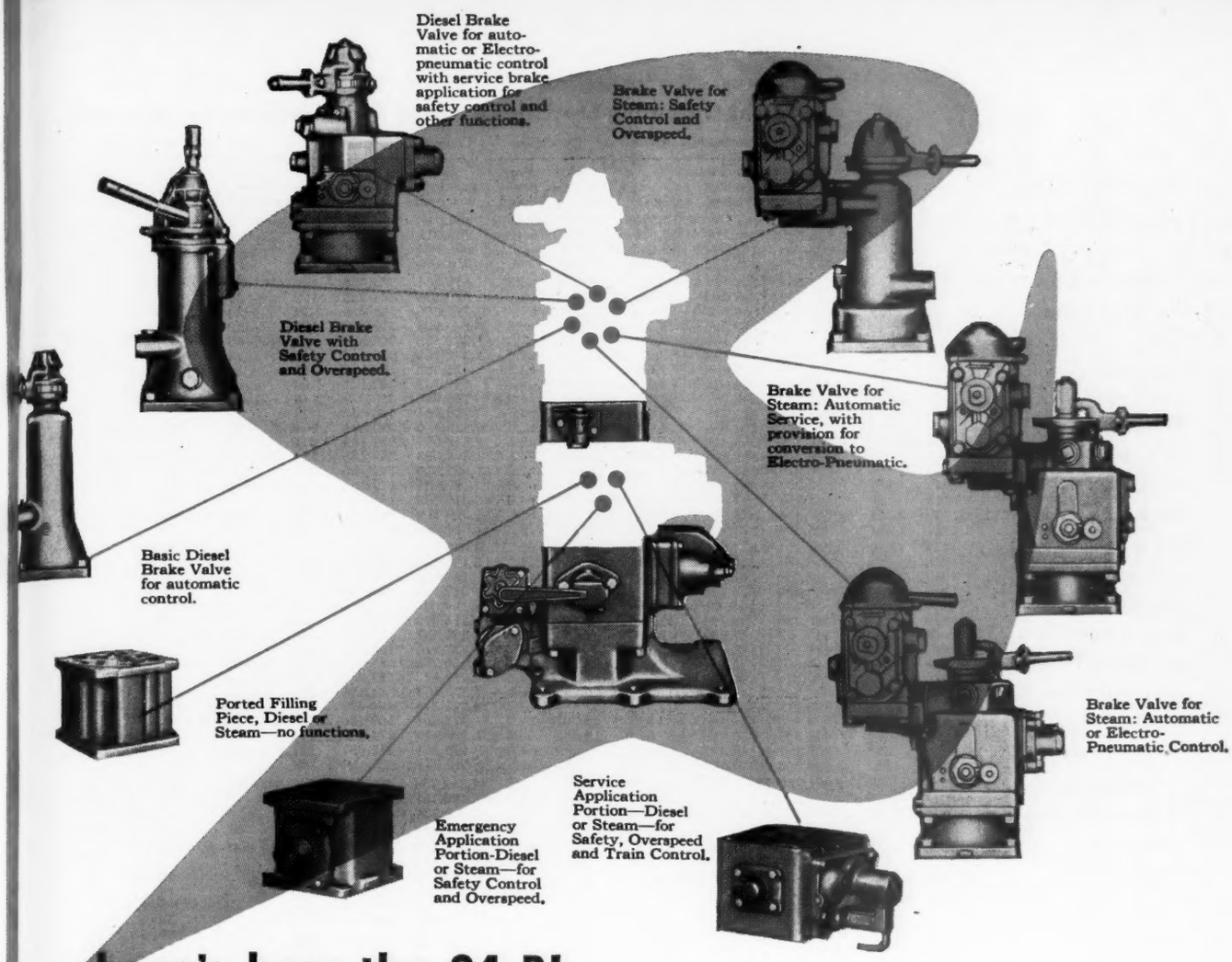
Harry B. Shoemaker, 80, who retired on December 1, 1939, as assistant superintendent of the Valley branch of the New York Central at Dunkirk, N. Y., died on February 13 in Brooks Memorial hospital, Dunkirk, after a long illness.

G. E. Momberg, general agent of the Charleston & Western Carolina at Cincinnati, Ohio, died in that city on February 11.

Thomas Edwin Pratt, who retired on January 15, 1938, as chief special agent of the Chicago, Burlington & Quincy at Chicago, died on February 5 at Levering hospital, Hannibal, Mo., at the age of 82.

Bert Hazlett, general agent of the Western Pacific at Reno, Nev., died in that city on January 25.

Everett Kerr, superintendent of transportation, western lines, Railway Express Agency, died on February 17, after a heart attack.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Based on the modern principle of combining interchangeable parts with various functions, the Westinghouse 24-RL brake equipment is readily adapted to meet the operating requirements of any service. It is particularly suited to modern "assembly line" production of road locomotives, whose assignments may be undetermined when construction starts; functional sections with the desired function may be inserted as requirements are established.

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Freight Operating Statistics of Large Steam Railways — Selected

Region, Road and Year		Miles of road operated	Train-miles	Locomotive-Miles: Principal and helper	Locomotive-Miles: Light	Car-Miles: Loaded (*thousands*)	Car-Miles: Per cent loaded	Ton-miles (*thousands*): Gross excl.locos. & tenders	Ton-miles (*thousands*): Net rev. and non-rev.	Road-locos. on lines: Serviceable: Unstored	Road-locos. on lines: Serviceable: Stored	Road-locos. on lines: B.O.	Road-locos. on lines: Per cent B.O.
New Eng. Region													
Boston & Maine	1949	1,701	274,174	282,900	13,394	10,202	65.5	658,641	268,817	92	5	19	16.4
	1948	1,746	313,890	326,212	17,028	11,825	69.5	753,831	331,017	90	7	13	11.8
N. Y., N. H. & Htfd.	1949	1,773	264,459	265,600	19,083	10,914	68.5	665,793	295,666	107	10	16	12.0
	1948	1,778	332,199	335,275	27,880	13,292	70.6	816,786	375,094	127	17	26	15.3
Great Lakes Region													
Delaware & Hudson	1949	794	211,865	257,151	28,315	9,540	68.2	649,664	332,236	120	54	24	12.1
	1948	794	277,749	340,092	36,986	12,593	69.9	889,446	481,223	122	30	28	15.6
Del., Lack. & Western	1949	966	243,302	268,840	27,877	11,288	67.8	741,209	331,390	79	20	35	26.1
	1948	967	291,064	325,266	33,776	12,654	68.5	846,926	392,323	109	29	15	9.8
Erie	1949	2,231	550,998	569,102	39,581	29,807	67.0	1,882,522	765,899	169	45	55	20.4
	1948	2,229	668,800	704,868	58,071	35,128	64.6	2,342,518	975,414	241	48	74	20.4
Grand Trunk Western	1949	971	214,798	219,890	2,020	6,955	64.5	454,388	184,168	55	..	11	16.7
	1948	972	262,608	269,016	2,399	8,521	66.4	557,137	243,171	64	1	9	12.2
Lehigh Valley	1949	1,239	221,443	232,201	23,346	10,971	66.9	750,058	349,079	48	10	29	33.3
	1948	1,239	301,610	321,730	33,305	13,213	68.5	919,164	448,053	78	19	21	17.8
New York Central	1949	10,680	2,744,546	2,898,559	172,096	98,597	62.8	6,828,975	3,092,894	964	122	406	27.2
	1948	10,690	3,286,129	3,505,459	234,280	116,893	62.5	8,243,629	3,833,116	1,071	110	356	23.2
New York, Chic. & St. L.	1949	1,656	495,218	523,658	6,671	20,772	66.6	1,340,668	556,343	124	30	31	16.8
	1948	1,656	639,015	653,197	8,667	25,579	67.4	1,682,523	751,295	145	12	16	9.2
Pitts. & Lake Erie	1949	221	53,287	53,783	.....	2,229	69.5	187,984	115,163	20	5	21	45.7
	1948	222	92,271	93,755	.....	3,788	64.8	319,630	186,782	30	5	16	31.4
Wabash	1949	2,381	567,588	578,324	9,197	20,242	68.2	1,290,419	538,684	142	14	55	26.1
	1948	2,381	665,064	679,575	15,285	23,432	70.3	1,514,366	671,436	158	5	39	19.3
Central Eastern Region													
Baltimore & Ohio	1949	6,086	1,501,397	1,817,826	202,796	54,077	62.7	4,015,872	1,933,789	673	105	291	27.2
	1948	6,076	1,922,665	2,373,487	257,115	66,487	61.7	5,105,683	2,524,381	838	24	246	22.2
Central of New Jersey	1949	411	62,399	62,399	4,824	2,158	64.2	168,980	86,551	32	4	8	18.2
	1948	417	76,308	76,566	5,837	2,904	65.8	218,734	115,279	53	3	6	9.7
Central of Pennsylvania	1949	212	58,635	64,936	9,908	2,285	65.8	169,544	89,040	32	4	17	32.1
	1948	213	80,726	88,709	13,920	2,921	69.7	214,073	117,801	46	..	10	17.9
Chicago & Eastern Ill.	1949	909	117,578	117,836	2,628	4,220	70.3	268,487	129,480	40	3	2	4.4
	1948	909	148,997	149,290	3,288	5,052	67.3	337,916	162,164	48	4	14	21.2
Elgin, Joliet & Eastern	1949	238	60,807	61,340	.....	2,172	68.3	159,753	85,460	37	..	3	7.5
	1948	238	97,376	98,063	.....	3,650	67.8	279,177	152,952	38	6	..	..
Pennsylvania System	1949	10,039	2,507,320	2,747,070	311,385	106,663	66.6	7,376,658	3,547,846	1,229	112	466	25.8
	1948	10,023	3,575,214	3,982,531	474,824	142,416	64.7	10,223,875	5,060,478	1,674	65	265	13.2
Reading	1949	1,320	338,737	354,569	33,843	12,201	69.7	911,681	507,140	167	24	62	24.5
	1948	1,337	418,104	438,915	37,615	15,665	66.4	1,216,915	673,036	194	19	42	16.5
Western Maryland	1949	836	160,795	196,803	25,858	5,560	64.3	452,954	253,037	127	38	14	7.8
	1948	837	194,628	240,347	37,585	7,146	61.6	590,331	323,648	148	8	14	8.2
Pocahontas Region													
Chesapeake & Ohio	1949	5,046	1,292,733	1,381,837	57,002	52,446	60.4	4,363,735	2,436,132	548	35	161	21.6
	1948	5,026	1,578,538	1,678,828	71,466	64,585	56.4	5,480,761	3,035,388	599	19	104	14.4
Norfolk & Western	1949	2,107	627,107	667,266	47,098	28,081	60.4	2,410,858	1,322,931	264	26	45	13.4
	1948	2,107	767,627	813,369	58,655	34,792	58.3	3,062,545	1,679,104	274	32	18	5.6
Southern Region													
Atlantic Coast Line	1949	5,507	758,644	766,712	14,394	20,637	62.5	1,425,778	643,789	316	41	81	18.5
	1948	5,551	930,139	950,700	15,185	23,448	64.6	1,581,049	714,948	356	15	71	16.1
Central of Georgia	1949	1,783	255,417	257,692	4,531	6,797	70.2	436,058	201,071	94	4	15	13.3
	1948	1,783	281,299	284,709	5,219	7,101	69.9	467,203	221,288	104	2	8	7.0
Gulf, Mobile & Ohio	1949	2,854	314,869	314,869	224	14,125	70.8	917,161	427,730	68	23	5	5.2
	1948	2,847	355,315	356,728	846	16,356	70.2	1,063,694	489,647	110	14	10	7.5
Illinois Central	1949	6,542	1,408,326	1,412,165	49,351	49,214	63.5	3,468,703	1,640,629	549	8	93	14.3
	1948	6,550	1,469,230	1,472,602	51,573	52,689	63.9	3,643,392	1,701,913	575	10	74	11.2
Louisville & Nashville	1949	4,774	1,122,965	1,202,399	31,378	30,619	65.6	2,167,442	1,125,598	365	36	65	13.9
	1948	4,750	1,344,343	1,441,074	37,985	34,643	62.7	2,506,644	1,278,064	396	29	64	13.1
Nash., Chatt. & St. Louis	1949	1,049	191,247	193,805	3,018	5,637	72.9	353,927	163,202	58	..	3	4.9
	1948	1,051	265,274	269,058	7,281	6,142	74.1	391,402	184,336	81	..	2	2.4
Seaboard Air Line	1949	4,139	690,335	714,674	5,837	21,144	63.2	1,467,307	654,974	221	31	77	23.4
	1948	4,142	766,382	805,430	9,873	23,344	66.1	1,605,539	730,644	265	13	50	15.2
Southern	1949	6,165	1,152,377	1,160,225	11,995	36,902	68.0	2,351,525	1,037,916	382	73	171	27.3
	1948	6,388	1,585,581	1,610,696	28,606	41,747	67.2	2,705,745	1,202,811	542	20	119	17.5
Northwestern Region													
Chicago & North Western	1949	8,073	869,485	882,754	22,945	27,834	63.0	1,962,154	835,020	273	29	169	35.9
	1948	8,073	1,015,590	1,065,274	25,495	32,677	64.8	2,262,129	1,012,987	371	8	93	19.7
Chicago Great Western	1949	1,445	159,236	159,490	9,207	8,667	67.3	548,133	225,123	40	..	8	16.7
	1948	1,445	197,977	202,345	11,625	9,032	69.3	578,420	253,826	53	..	18	25.4
Chic., Milw., St. P. & Pac	1949	10,663	1,295,505	1,348,550	49,604	44,291	61.3	3,093,224	1,341,216	425	73	90	15.3
	1948	10,663	1,435,024	1,502,721	60,017	48,917	67.6	3,284,972	1,526,393	471	37	78	13.3
Chic., St. P., Minn. & Omaha	1949	1,606	206,066	216,126	11,155	5,592	64.4	393,556	175,144	74	..	31	29.5
	1948	1,606	215,258	231,412	14,598	5,705	70.4	382,569	175,295	77	..	37	32.5
Duluth, Missabe & Iron Range	1949	574	23,885	23,954	404	321	49.1	24,264	10,138	29	10	22	36.1
	1948	578	126,641	127,003	692	6,625	51.1	582,604	325,935	66	..	2	2.9
Great Northern	1949	8,222	1,106,668	1,105,717	49,936	39,739	58.8	2,908,082	1,244,675	334	77	67	14.0
	1948	8,240	1,077,999	1,074,616	49,642	42,406	67.2	2,933,257	1,379,891	358	66	59	12.2
Minneap., St. P. & S. Ste. M	1949	4,179	381,902	387,470	3,648	12,424	65.2	811,005	364,096	108	2	14	11.3
	1948	4,180	415,364	425,290	8,061	13,235	68.7	843,084	389,586	119	..	12	9.2
Northern Pacific	1949	6,594	866,531	909,853	49,971	31,036	60.8	2,272,195	988,092	292	37	66	16.7
	1948	6,593	816,309	866,123	50,802	34,017	71.9	2,280,796	1,117,601	342	22	58	13.7
Central Western Region													
Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1949	13,102	2,360,870	2,495,497	91,415	92,608	66.3	6,129,559	2,394,011	640	131	126	14.0
	1948	13,080	2,947,050	3,136,418	138,069	109,143	65.6	7,307,332	2,932,666	731	66	147	15.6
Chic., Burl. & Quincy	1949	8,839	1,239,205	1,277,169	44,383	46,588	62.7	3,203,428	1,379,578	415	19	142	24.7
	1948	8,670	1,294,645	1,320,556	41,658	51,735	64.5	3,561,833	1,615,359	402	50	81	15.2
Chic., Rock I. & Pac.	1949	7,597	1,045,604	1,080,759	17,734	35,172	61.7	2,432,506	1,051,347	235	25	97	27.2
	1948	7,612	1,126,586	1,163,530	10,533	36,584	62.1	2,529,412	1,107,628	311	26	50	12.9
Denver & R. G. Wn.	1949	2,413	373,073	403,873	47,035	13,531	73.6	904,279	439,737	129	18	49	25.0
	1948	2,443	433,498	490,403	71,968	14,747	75.4	972,871	490,186	151	18	49	22.5
Southern Pacific	1949	8,067	1,939,243	2,093,008	327,743	81,609	64.6	5,490,225	2,228,437	735	4	208	22.0
	1948	8,090	2,116,819	2,346,571	412,251	89,680	68.6	5,936,438	2,560,571	725	9	196	21.1
Union Pacific	1949	9,721	2,436,144	2,520,269	157,475	95,791	62.0	6,670,987	2,689,607	578	81	153	18.8
	1948	9,751	2,530,818	2,623,343	191,840	101,739	66.3	6,817,601	2,871,150	605	57	142	17.7
Western Pacific	1949	1,192	200,146	223,315	20,462	9,606	77.1	587,757	269,929	64	8	44	37.9
	1948	1,192	235,891	256,275	24,035	10,909	79.1	662,589	313,672	76	29	16	13.2
Southwestern Region													
International-Gt. Northern*	1949	1,110	174,743	175,008	374	5,940	66.1	416,790	190,599	61	7	5	6.8
	1948	1,110	205,033	206,611	1,702	5,949	61.8	464,909	216,306	59	..	12	16.9
Kansas City Southern	1949	886	173,793	174,113	962	7,777	63.7	547,321	246,194	40	7	8	14.5
	1948	885	187,607	187,868	1,594	8,990	66.3	624,467	294,651	44	5	7	12.5
Mo.-Kans.-Texas Lines	1949	3,241	408,604	417,096	7,133	13,997	65.1	904,363	391,281	93	1	52	35.6
	1948	3,241	657,137	672,208	8,763	19,725	62.5	1,356,529	608,755	127	..	26	17.0
Missouri Pacific*	1949	6,986	1,247,935	1,268,275	21,027	42,807	67.1	2,845,341	1,292,773	367	11	73	16.2
	1948	6,983	1,465,744	1,510,641	30,956	49,602	65.6	3,416,833	1,542,408	423	..	56	11.7
Texas & Pacific	1949	1,852	324,566	324,566	9,458	11,779	64.7	786,548	309,404	119	..	4	3.3
	1948	1,852	455,614	455,614	13,459	15,764	65.6	1,058,362	458,789	110	1	11	9.0
St. Louis-San Francisco	1949	4,615	697,145	705,157	7,815	22,486	65.5	1,508,597	678,267	200	69	52	16.2
	1948	4,615	832,930	848,310	10,049	22,978	65.5	1,583,472	710,128	291	12	45	12.9
St. Louis Southw. Lines	1949	1,562	326,673	327,352	4,384	12,057	71.5	747,063	333,948	76	20	10	9.4
	1948	1,562	389,781	392,094	5,188	15,327	74.7	935,349	418,125	85	7	13	12.4
Texas & New Orleans	1949	4,314	830,968	831,044	17,531	24,923	63.9	1,721,380	728,992	214	..	59	21.6
	1948	4,314	953,219	954,839	27,877	27,105	71.2	1,814,271	843,288	217	..	32	12.9

Items for the Month of November 1949 Compared with November 1948

	Region, Road and Year		Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos. and tenders	G.t.m.per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Mi. per loco. per day
New Eng. Region	Boston & Maine	1949	2,347	9,106	11,453	3.1	37,731	2,406	982	26.3	766	44.4	5,268	15.7	93.1
		1948	1,550	11,079	12,629	2.4	38,386	2,407	1,057	28.0	868	44.6	6,320	16.0	112.7
	N. Y., N. H. & Htfd.	1949	2,071	17,984	20,055	2.4	36,133	2,524	1,121	27.1	512	27.6	5,559	14.4	79.5
		1948	1,471	20,008	21,479	1.4	35,258	2,464	1,132	28.2	589	29.6	7,032	14.3	77.8
Great Lakes Region	Delaware & Hudson	1949	4,535	5,942	10,477	5.0	51,973	3,081	1,576	34.8	1,109	46.7	13,948	16.9	51.3
		1948	2,973	6,842	9,815	3.8	58,119	3,219	1,742	38.2	1,622	60.7	20,202	18.1	72.8
	Del., Lack. & Western	1949	6,821	9,773	16,594	9.2	45,448	3,102	1,387	29.4	685	34.4	11,435	14.9	77.7
		1948	4,528	10,331	14,859	4.5	45,314	2,964	1,373	31.0	859	40.5	13,524	15.6	87.2
	Erie	1949	10,740	18,023	28,763	7.6	56,431	3,440	1,399	25.7	923	53.6	11,443	16.5	84.0
		1948	7,656	20,988	28,644	5.0	58,583	3,525	1,468	27.8	1,053	58.7	14,587	16.7	77.4
	Grand Trunk Western	1949	4,757	8,540	13,297	8.9	43,482	2,132	864	26.5	482	28.2	6,322	20.6	123.7
		1948	4,423	8,416	12,839	8.2	42,962	2,132	931	28.5	631	33.3	8,339	20.3	131.7
	Lehigh Valley	1949	7,467	10,534	18,001	10.3	62,856	3,434	1,598	31.8	651	30.6	9,391	18.6	98.0
		1948	7,446	11,643	19,089	11.6	57,631	3,113	1,517	33.9	778	33.5	12,054	18.9	102.3
	New York Central	1949	67,329	99,350	166,679	8.7	41,690	2,539	1,150	31.4	663	33.6	9,653	16.8	77.1
		1948	56,980	105,449	162,429	3.7	39,908	2,548	1,185	32.8	779	38.0	11,952	15.9	91.1
	New York, Chic. & St. L.	1949	3,965	9,761	13,726	4.3	54,773	2,716	1,127	26.8	1,338	75.0	11,199	20.2	100.7
		1948	2,380	14,570	16,950	1.6	51,074	2,650	1,183	29.4	1,442	72.9	15,123	19.4	134.5
	Pitts. & Lake Erie	1949	4,875	8,256	13,131	13.6	51,545	3,540	2,169	51.7	270	7.5	17,370	14.6	42.1
		1948	5,080	10,745	15,825	6.2	51,896	3,473	2,029	49.3	398	12.5	28,045	15.0	69.5
	Wabash	1949	7,093	12,551	19,644	2.9	47,864	2,304	962	26.6	880	48.5	7,541	21.1	97.9
		1948	6,155	13,272	19,427	3.5	46,213	2,301	1,020	28.7	1,103	54.8	9,400	17.0	120.9
Central Eastern Region	Baltimore & Ohio	1949	48,698	39,039	87,737	14.0	35,869	2,740	1,320	35.8	731	32.6	10,591	13.4	65.1
		1948	46,963	40,321	87,284	7.3	34,074	2,710	1,340	38.0	923	39.4	13,849	12.8	82.5
	Central of New Jersey	1949	1,070	8,883	9,953	8.2	36,871	2,798	1,433	40.1	302	11.7	7,020	13.6	76.2
		1948	799	9,179	9,978	5.0	40,664	3,016	1,589	39.7	389	14.9	9,215	14.2	72.0
	Central of Pennsylvania	1949	1,605	3,423	5,028	16.7	41,832	3,071	1,613	39.0	546	21.3	14,000	14.5	60.6
		1948	979	3,143	4,122	6.4	39,402	2,871	1,580	40.3	911	32.4	18,435	14.9	73.6
	Chicago & Eastern Ill.	1949	2,124	3,520	5,644	7.7	37,269	2,294	1,106	30.7	697	32.3	4,748	16.3	93.0
		1948	2,213	3,451	5,664	5.4	37,446	2,288	1,098	32.1	917	42.5	5,947	16.5	81.3
	Elgin, Joliet & Eastern	1949	7,014	7,825	14,839	2.0	19,779	2,719	1,454	39.3	197	17.3	11,969	7.5	75.8
		1948	6,147	11,383	17,530	2.2	20,073	3,039	1,665	41.9	301	10.6	21,422	7.0	106.8
	Pennsylvania System	1949	133,645	102,809	236,454	15.4	43,862	3,040	1,462	33.3	509	23.0	11,780	14.9	61.5
		1948	125,654	118,710	244,364	8.8	39,841	2,952	1,461	35.5	677	29.5	16,830	13.9	80.3
	Reading	1949	16,202	17,933	34,135	9.2	33,389	2,694	1,499	41.6	514	17.7	12,807	12.4	60.2
		1948	12,433	19,841	32,274	6.0	37,179	2,916	1,613	43.0	680	23.9	16,780	12.8	75.9
	Western Maryland	1949	5,051	3,293	8,344	1.6	38,253	2,899	1,620	45.5	939	32.1	10,089	13.6	44.3
		1948	5,086	3,328	8,414	1.3	32,836	3,082	1,690	45.3	1,360	48.8	12,889	10.8	58.2
Pocahontas Region	Chesapeake & Ohio	1949	51,309	24,970	76,279	7.9	55,467	3,420	1,910	46.5	1,008	36.0	16,093	16.4	70.2
		1948	50,967	23,138	74,105	2.7	54,189	3,511	1,944	47.0	1,339	50.5	20,131	15.6	88.5
	Norfolk & Western	1949	29,409	7,352	36,761	5.5	61,431	3,939	2,161	47.1	979	34.4	20,929	16.0	75.3
		1948	33,979	7,733	41,712	2.8	64,847	4,052	2,222	48.3	1,443	51.3	26,564	16.3	96.8
Southern Region	Atlantic Coast Line	1949	13,087	15,794	28,881	5.3	29,870	1,886	852	31.2	747	38.3	3,879	15.9	64.6
		1948	9,404	18,080	27,484	3.0	28,044	1,705	771	30.5	858	43.6	4,293	16.5	80.1
	Central of Georgia	1949	3,239	5,032	8,271	7.9	30,036	1,711	789	29.6	826	39.8	3,759	17.6	84.6
		1948	2,318	6,309	8,627	5.4	30,065	1,665	789	31.2	852	39.1	4,137	18.1	92.4
	Gulf, Mobile & Ohio	1949	4,116	11,100	15,216	2.7	56,889	2,290	1,136	30.3	956	44.6	4,996	19.5	115.8
		1948	2,936	12,277	15,213	1.7	53,986	3,004	1,383	29.9	1,079	51.4	5,733	18.0	92.9
	Illinois Central	1949	21,112	29,630	50,742	2.2	43,105	2,496	1,181	33.3	1,055	49.9	8,359	17.5	80.0
		1948	18,408	38,509	56,917	1.4	43,864	2,505	1,170	32.3	1,047	50.7	8,661	17.7	81.8
	Louisville & Nashville	1949	35,053	12,837	47,890	10.8	29,781	1,937	1,006	36.8	694	28.8	7,859	15.4	92.7
		1948	32,317	15,382	47,699	2.9	29,707	1,870	953	36.9	951	41.1	8,969	15.9	106.3
	Nash., Chatt. & St. Louis	1949	3,038	4,306	7,344	10.4	36,423	1,859	857	29.0	754	35.7	5,186	19.7	116.1
		1948	879	4,833	5,712	2.2	29,449	1,481	697	30.0	1,019	45.8	5,846	20.0	115.8
	Seaboard Air Line	1949	10,135	13,734	23,869	3.2	37,656	2,177	972	31.0	914	46.7	5,275	17.7	82.4
		1948	7,513	15,592	23,105	1.2	37,446	2,146	977	31.3	1,061	51.3	5,880	17.9	92.1
	Southern	1949	17,051	28,210	45,261	5.5	35,220	2,060	909	28.1	779	40.8	5,612	17.3	64.3
		1948	13,621	31,699	45,320	4.5	29,751	1,725	767	28.8	893	46.1	6,276	17.4	81.3
Northwestern Region	Chicago & North Western	1949	20,539	31,714	52,253	3.2	36,564	2,377	1,012	30.0	524	27.8	3,448	16.2	70.8
		1948	18,578	34,592	53,170	3.0	34,253	2,337	1,046	31.0	614	30.6	4,183	15.4	83.5
	Chicago Great Western	1949	1,345	5,164	6,509	4.2	62,737	3,456	1,419	26.0	1,083	62.0	5,193	18.2	124.9
		1948	1,076	4,860	5,936	4.7	47,681	2,923	1,283	28.1	1,315	67.5	5,855	16.3	104.9
	Chic., Milw., St. P. & Pac.	1949	31,766	31,401	63,167	2.4	38,828	2,410	1,045	30.3	702	37.8	4,193	16.3	85.5
		1948	20,681	36,267	56,948	1.7	36,454	2,307	1,072	31.2	868	41.2	4,772	15.9	96.1
	Chic., St. P., Minn. & Omaha	1949	834	7,919	8,753	3.5	25,094	1,968	876	31.3	680	33.7	3,635	13.1	78.1
		1948	1,079	7,032	8,111	4.5	24,078	1,856	850	30.7	712	32.9	3,638	13.5	76.9
	Duluth, Missabe & Iron Range	1949	14,673	413	15,086	3.2	15,776	1,064	445	31.6	23	1.5	589	15.5	15.8
		1948	14,666	673	15,339	3.0	77,909	4,773	2,670	49.2	717	28.5	18,797	16.9	83.3
	Great Northern	1949	24,670	20,936	45,606	2.9	44,388	2,653	1,136	31.3	926	50.2	5,046	16.9	86.9
		1948	18,597	20,839	39,436	2.6	44,887	2,742	1,290	32.5	1,142	52.3	5,582	16.5	83.5
	Minneap., St. P. & S. Ste. M	1949	6,520	7,080	13,600	6.0	39,908	2,148	964	29.3	850	44.5	2,904	18.8	116.7
		1948	4,783	8,628	13,411	5.2	36,688	2,049	947	29.4	875	43.3	3,107	18.1	115.9
	Northern Pacific	1949	20,854	16,001	36,855	5.9	46,211	2,631	1,144	31.8	958	49.5	4,995	17.6	87.1
		1948	16,363	17,307	33,670	5.1	45,896	2,809	1,377	32.9	1,088	46.0	5,650	16.4	79.7
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1949	48,723	30,364	79,087	4.4	51,991	2,612	1,020	25.9	1,014	52.9	6,091	20.0	102.5
		1948	41,232	40,649	81,881	5.1	49,345	2,494	1,001	26.9	1,237	70.2	7,474	19.9	121.7
	Chic., Burl. & Quincy	1949	18,017	26,550	44,567	4.1	47,111	2,595	1,118	29.6	992	53.4	5,203	18.2	81.7
		1948	14,394	28,555	42,949	3.3	49,054	2,763	1,253	31.2	1,261	62.6	6,211	17.8	91.2
	Chic., Rock I. & Pac.	1949	10,850	22,085	32,935	3.7	42,335	2,333	1,008	29.9	993	53.9	4,613	18.2	107.3
		1948	9,724	27,723	37,447	3.5	40,024	2,252	986	30.3	1,007	53.6	4,850	17.8	106.9
	Denver & R. G. Wn.	1949	8,002	7,386	15,388	4.4	41,874	2,436	1,185	32.5	922	38.5	6,075	17.3	83.0
		1948	7,224	8,200	15,424	3.9	36,730	2,262	1,140	33.2	1,012	40.4	6,688	16.4	93.3
	Southern Pacific	1949	25,494	41,809	67,303	3.8	46,734	2,861	1,161	27.3	1,124	63.8	9,208	16.5	90.1
		1948	24,846	38,252	63,098	3.2	45,346	2,832	1,221	28.6	1,279	65.3	10,550	16.2	105.5
	Union Pacific	1949	27,067	32,787	59,854	4.0	60,363	2,782	1,222	28.1	1,408	80.9	9,223	22.0	112.9
		1948	23,197	37,588	60,785	2.4	57,674	2,739	1,154	28.2	1,575	84.2	9,815	21.4	121.9
	Western Pacific	1949	2,113	3,721	5,834	10.6	61,921	2,952	1,356	28.1	1,592	73.5	7,548	21.1	71.2
		1948	2,127	2,509	4,636	8.4	58,465	2,819	1,335	28.8	2,205	97.0	8,772	20.8	78.4
Southwestern Region	International-Gt. Northern*	1949	701	7,066	7,767	1.5	45,756	2,402	1,099	32.1	834	39.4	5,724	19.2	84.2
		1948	355	7,192	7,547	1.0	41,782	2,292	1,066	36.4	999	44.4	6,496	18.4	96.6
	Kansas City Southern	1949	1,546	5,778	7,324	5.2	59,621	3,168	1,425	31.7	1,096	54.4	9,262	18.9	117.5
		1948	1,195	5,649	6,844	3.8	65,644	3,349	1,580	32.8	1,409	64.9	11,098	19.7	121.3
	Mo.-Kans.-Texas Lines	1949	3,246	8,983	12,229	3.0	40,864	2,220	961	28.0	1,078	59.3	4,024	18.5	100.7
		1948	2,161	9,200	11,361	.5	37,997	2,090	938	30.9	1,714	88.8	6,261	18.4	159.3
	Missouri Pacific*	1949	18,800	19,403	38,203	2.3	44,123	2,289	1,040	30.2	1,174	58.0	6,168	19.4	100.4
		1948	11,820	28,677	40,497	2.0	44,379	2,343	1,058	31.1	1,291	63.3	7,363	19.0	113.0
	Texas & Pacific	1949	2,286	6,533	8,819	4.7	46,796	2,430	956	26.3	1,156	68.0	5,569	19.3	99.7
		1948	1,898	8,449	10,347	3.5	42,873	2,337	1,013	29.1	1,531	80.2	8,258	18.5	134.6
	St. Louis-San Francisco	1949	8,876	13,288	22,164	3.1	36,104	2,173	977	30.2	953	48.3	4,899	16.7	81.8
		1948	5,347	14,751	20,098	2.2	37,026	1,914	858	30.9	1,157	57.2	5,129	19.5	88.6
	St. Louis Southw. Lines	1949	1,675	4,785	6,460	1.4	43,208	2,290	1,024	27.7	1,574	79.5	7,127	18.9	110.3
		1948	1,314	6,128	7,442	1.4	47,883	2,404	1,074	27.3	1,828	89.7	8,923	20.0	135.2
	Texas & New Orleans	1949	4,512	18,133	22,645	3.6	39,483	2,090	885	29.2	1,068	57.2	5,633	19.1	111.0
		1948	3,949	16,460	20,409	2.7	37,165	1,923	894	31.1	1,306	59.0	6,516	13.5	137.3

*Report of trustee or trustees.
Compiled by the Bureau of Transport Economics and Statistics. Interstate Commerce Commission, Subject to revision.

Current Publications

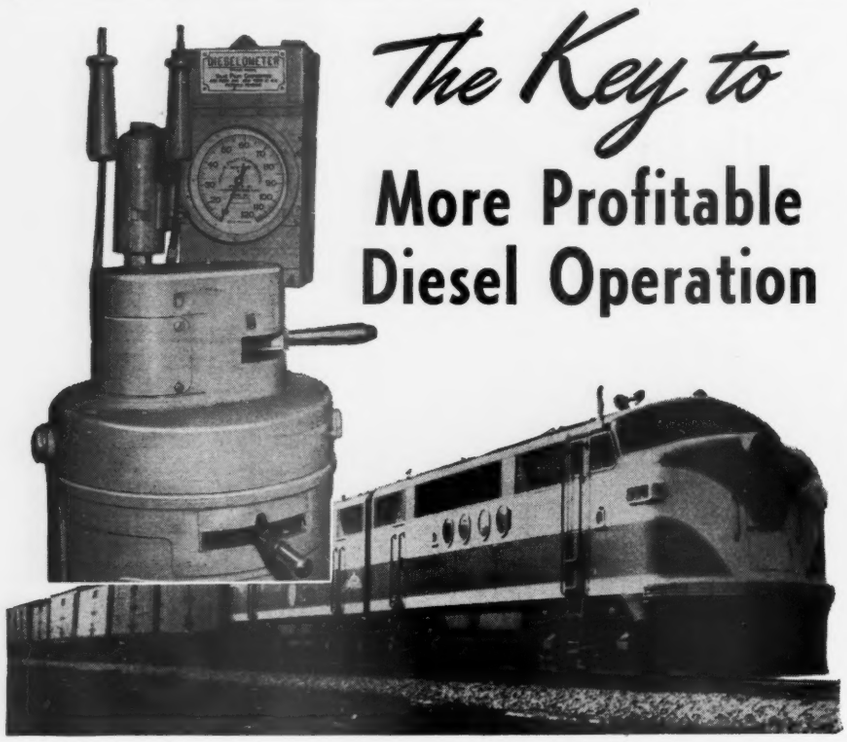
BOOKS

Narrow Gauge Railways in America (by Howard Fleming), edited by Grahame Hardy and Paul Darrell. 101 pages, directory, illustrations. Published by Grahame Hardy, 2046 East 14th st., Oakland 6, Cal. $5.

This is a reprint of t'e second edition of the first survey of American narrow gage railways, by Howard Fleming. Although originally made in 1875, the 1876 edition was chosen for reproduction, as giving more complete coverage of the narrow gage scene. It contains chapters on the origin, growth and construction of narrow gage lines, and on narrow gage locomotives, passenger cars and freight cars. These are followed by reports on individual railroads. The reprint of the original document is supplemented by a directory of over 750 narrow gage lines prepared by Brian Thompson, and by additional illustrations.

Footprints of the Dragon; A Story of the Chinese and the Pacific Railways, by Vanya Oakes. 240 pages. Published by the John C. Winston Company, 1010 Arch st., Philadelphia, 7, Pa. $2.50.

In the 1860's ten thousand Chinese laid the footprints of the "smoke dragon" across the savage Sierras and the desert, to complete the spanning of a continent by rail. This story is the fifth in "The Land of the Free Series," junior historical novels which dramatize the gifts of various national groups to development of the United States. Labor was the Chinese contribution, millions of man-hours of work, for the bulldozers of that day were puny shovels. But it was exciting work to Hip Wo, 15-year old leader of a construction crew. The reader holds his breath as Hip Wo sets a charge of dynamite in the side of a cliff, or climbs a railway trestle in a race against the moment when straining timbers may drop a train into the river.



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PAMPHLETS

Everyman's Almanac, 1950, compiled by Roob H. Allie and E. P. Wallace. 32 pages. Published by the Michigan Railroads Association, Prudden Building, Lansing, Mich. Free.

Interspersed with quotations, household hints, recipes, weather wisdom, monthly calendars and other almanac-type information, are interesting facts about the railroads.

Safe Practice Instructions; Railroad Operations. 51 pages. Published by Armco Steel Corporation, Middletown division, Middletown, Ohio.

A safety-training booklet packed with pictures and written for easy reading. It is based on practical experience of railroad men, and gives Armco train crews detailed and illustrated instructions on the right way—the safe way—to perform virtually all their train-handling duties. The booklet is pocket-size, and employees can carry it with them for ready reference.

British Railways Today and Tomorrow. 48 pages, illustrations, map. Published by the Railway Executive, 222 Marylebone Road, London, N.W.1, England. Free.

Designed for industrialists, journalists, authors, lecturers, and all those requiring authentic information about British railways this booklet surveys the history of the railways leading up to unification and records the aims and achievements of the industry and its staff since the Railway Executive assumed, on January 1, 1948, the responsibility for the management and operation of the railways. Future improvements in services, rolling stock, track, and stations and equipment are outlined.

Annual Report, 1949, Armour Research Foundation of Illinois Institute of Technology. 44 pages, illustrations. Published by the Illinois Institute of Technology, 3300 South Federal st., Chicago 16, Ill. Free.

Descriptions of more than 200 research projects undertaken by foundation scientists and engineers are noted in the 1948-49 annual report of the Armour Research Foun-

dation. Under the head of "Sponsored Research" there is a short summary of the project on dynamics and strength of railway cars being conducted for the Pullman-Standard Car Manufacturing Company.

Cars of Revenue Freight Loaded, 1949-1930. 10 pages. Published by the Association of American Railroads, Car Service Division, Transportation Building, Washington 6, D. C. Free.

A handy compilation of freight car loading statistics, by weeks, quarters and years, and by commodities, for each year 1930 through 1949. It contains, in addition, a map of the United States showing the seven railroad districts into which the country is divided, and lists the railroads in each district.

Catalog of National Safety Council Occupational Safety Services. 32 pages. Published by the National Safety Council, 20 N. Wacker Drive, Chicago 6, Ill. Free.

Issued as Service Guide 2.1, September 1, 1949, this catalog lists the occupational safety services of the council, the conditions and terms on which they are available, and imprinting charges.

What to Expect from Wirebound Boxes and Crates. 16 pages, illustrations. Published by the Wirebound Box Manufacturers Association, 105 S. LaSalle st., Chicago 3. Free to shippers and industrial packaging engineers.

Construction principals of wirebound shipping containers and their basic styles and applications are outlined in this fully illustrated booklet. Potential advantages, such as reduced storage space requirements before use, faster assembling, easier handling, low initial cost, better stacking, and reduced container tare weight, are outlined.

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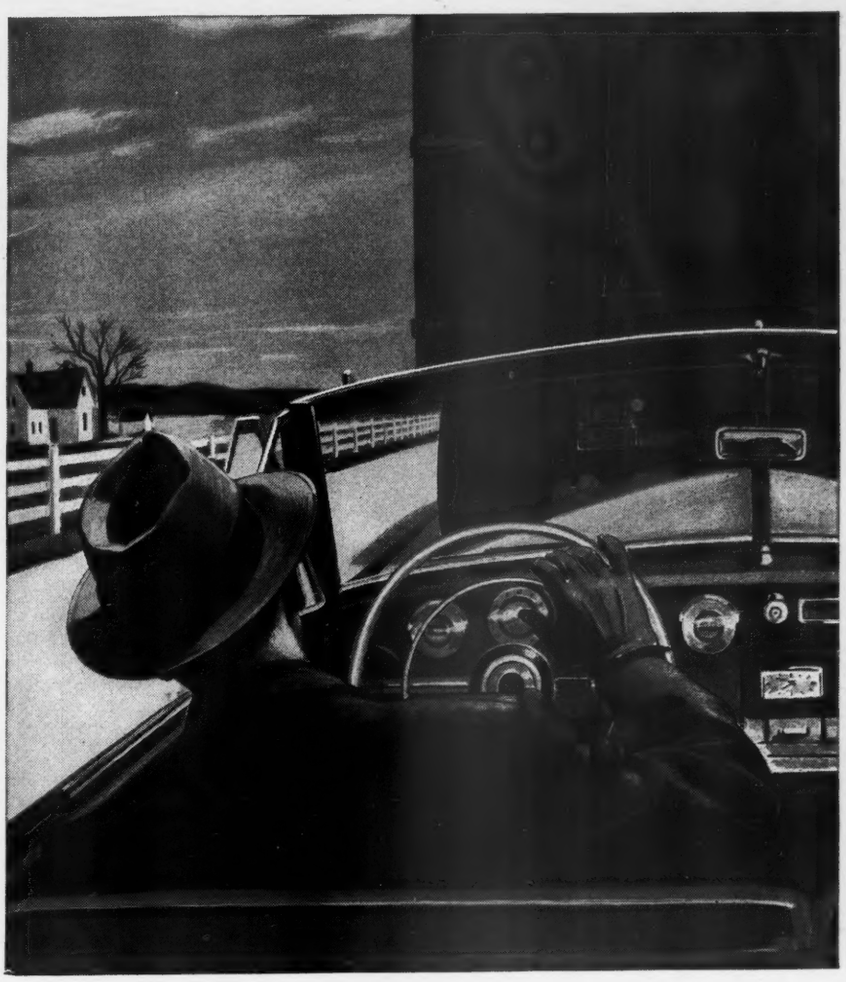
"The City court of East Chicago, Ind., has fined the New York Central and Pennsylvania railroads for violating a 15-year-old ordinance which limits the speed of trains to 25 m.p.h. City officials defended their prosecution of the roads by saying that trains sometimes go so fast that automatic gates are not lowered before the trains reach crossings.

"If so, the proper remedy is to require the railroads to make adjustments in the devices which lower the gates. It is absurd to demand that railroads, operating on their own rights of way, should run trains at speeds below those of automobiles and trucks on public streets and highways."

—An editorial in the Chicago Tribune



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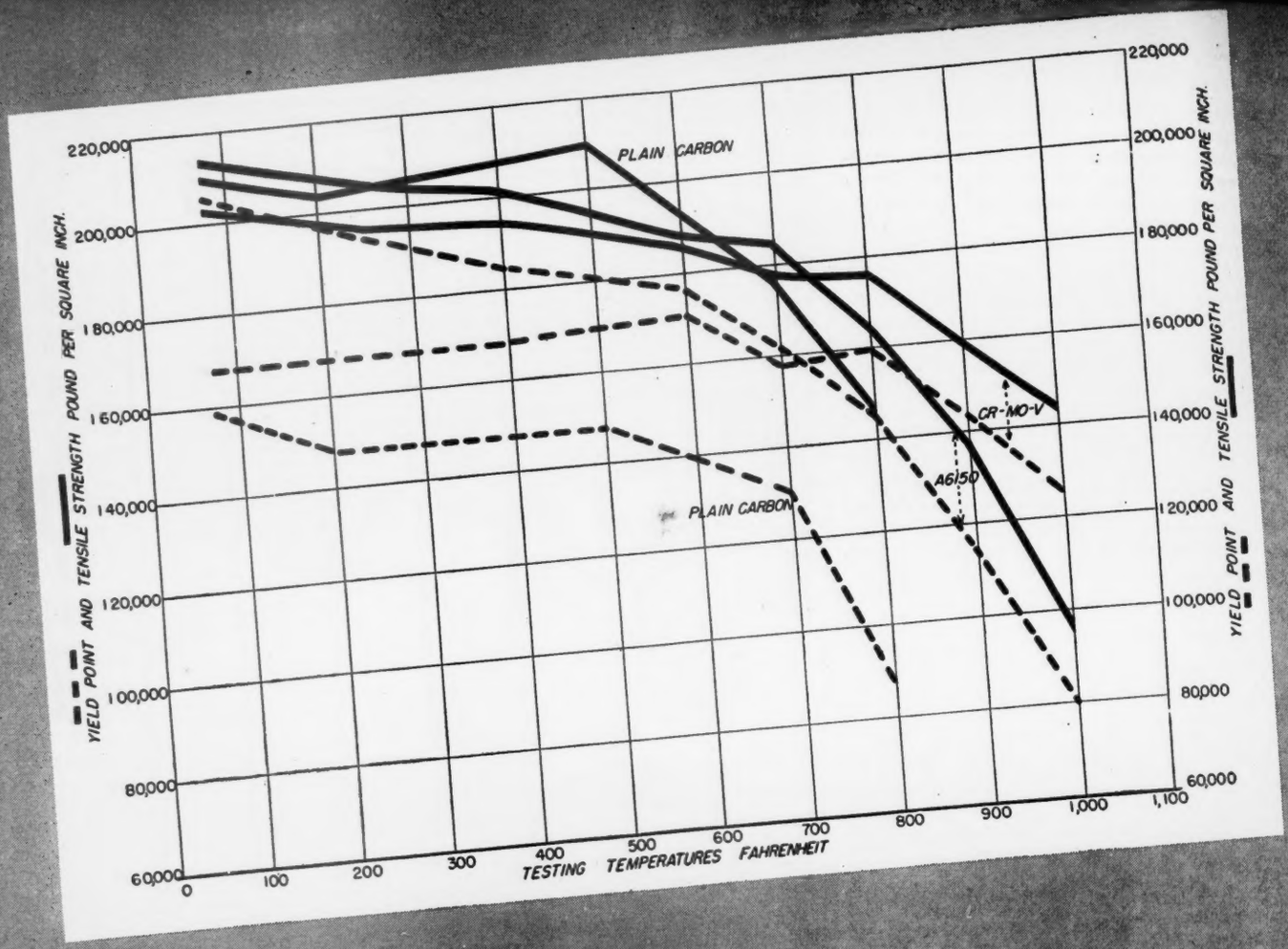

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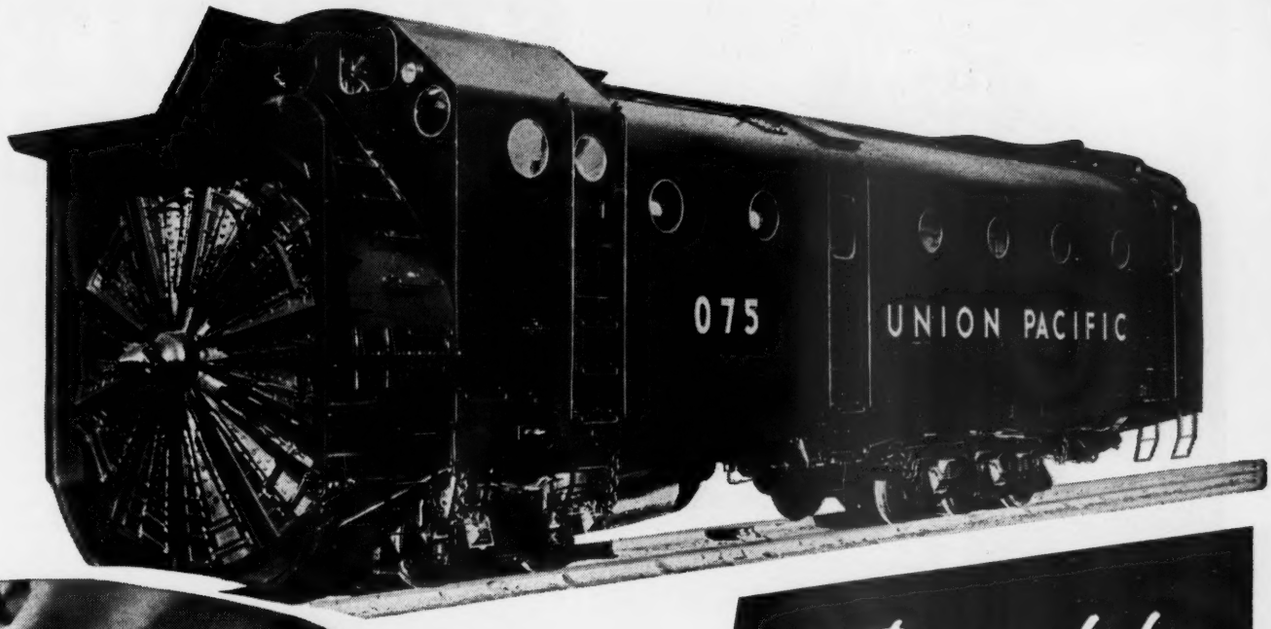

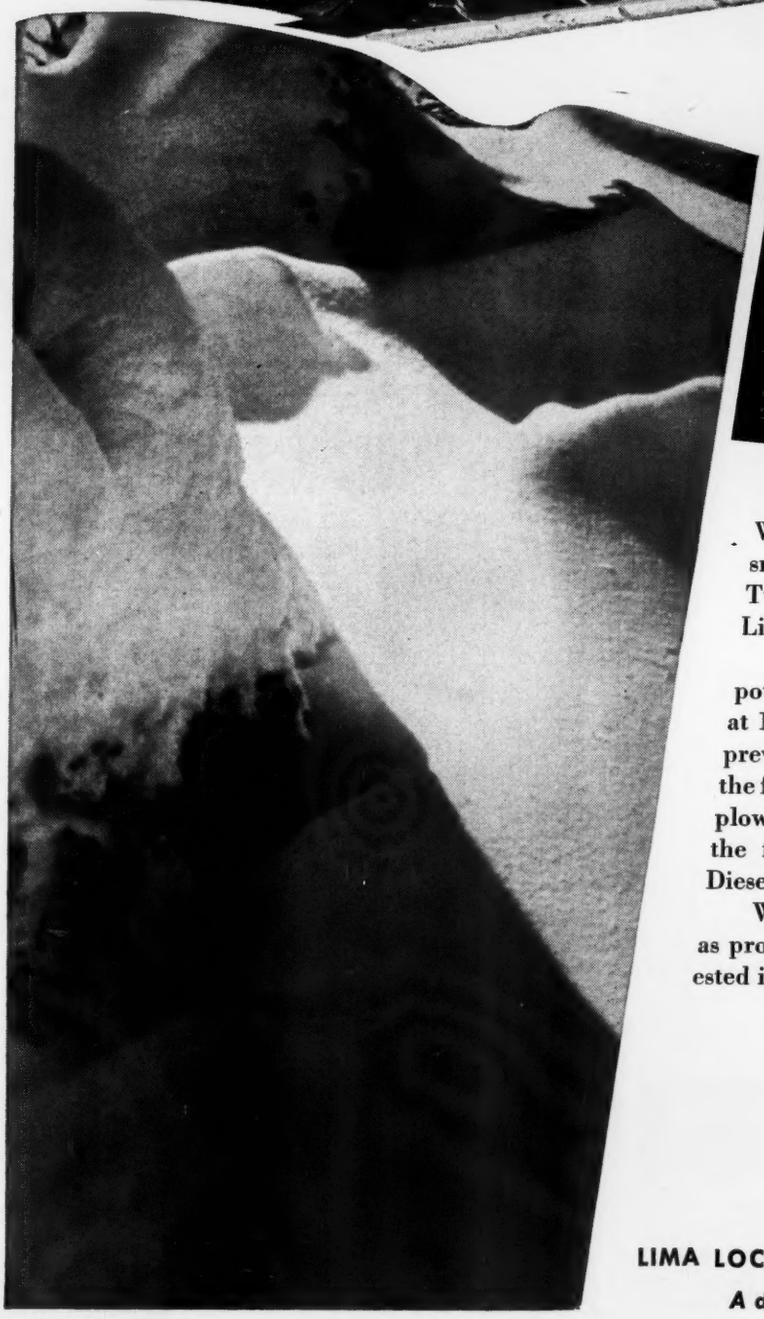

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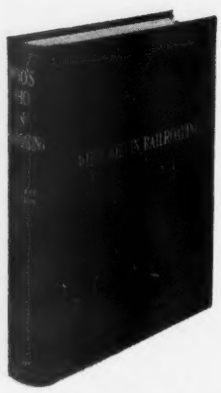

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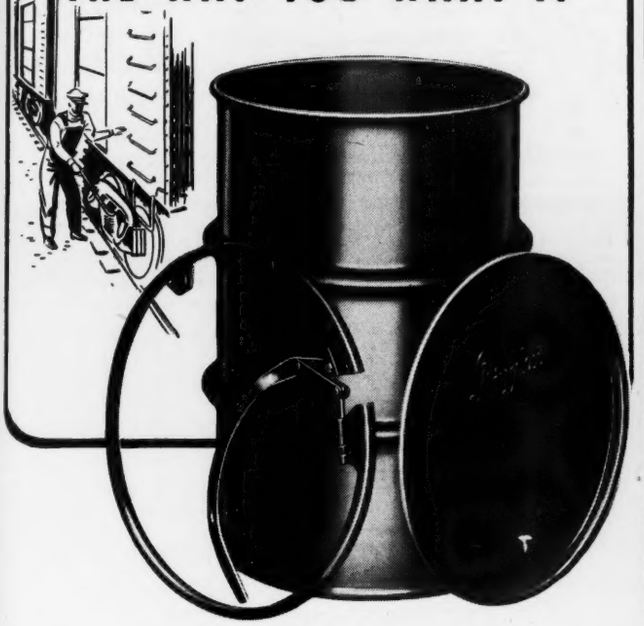

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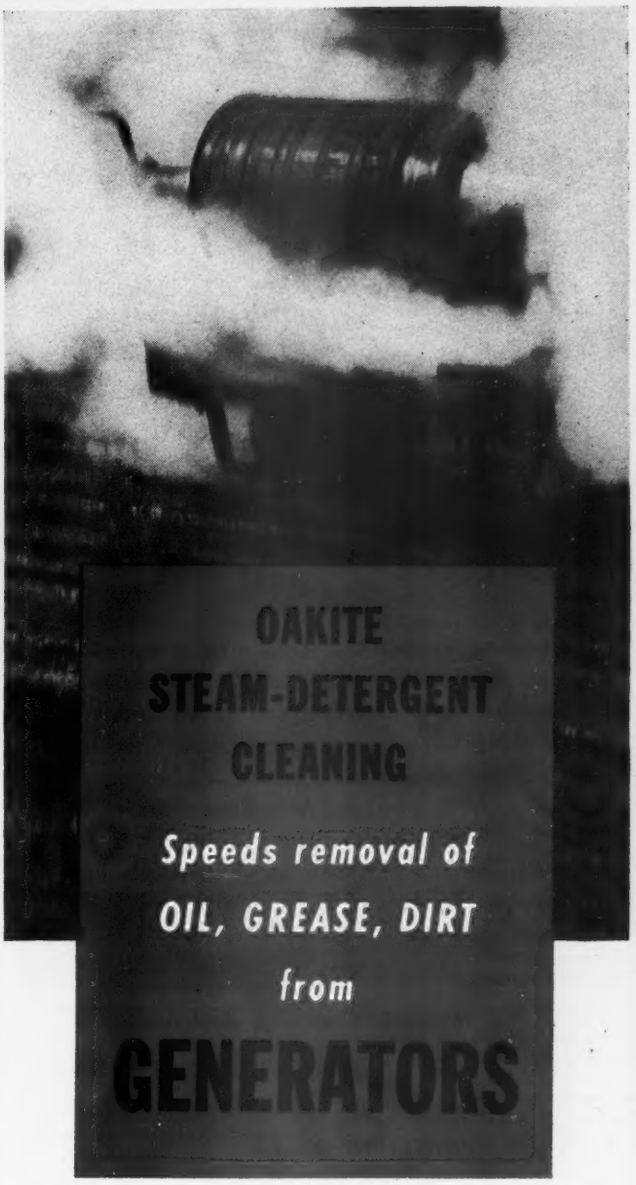

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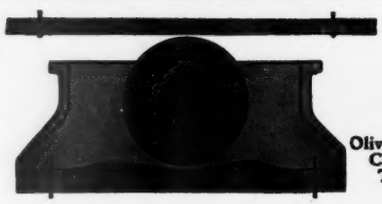

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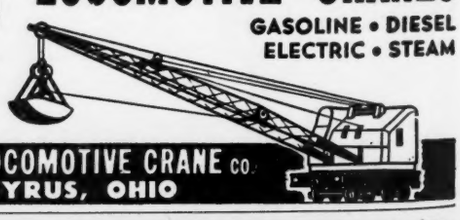

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There's something about an old-book catalog . . .

And, when that catalog is devoted exclusively to railway books—histories, old time tables, out-of-print magazines—we're apt to lose track of both time and deadlines.

Browsing through such a catalog from a Chicago bookseller this week we had gotten as far as the Rs when we bumped smack into the familiar title—RAILWAY AGE.

Yes, there it was—in black and white—not once but six times.

A total of 25 back issues were listed for sale—Passenger Progress Numbers, Freight Progress Number, Annual Statistical and Outlook Numbers and various other feature issues.

Some were dated as far back as 1933—others as recently as 1948.

—But, new or old, the most interesting point to us was that they were all priced at $2.50 apiece.

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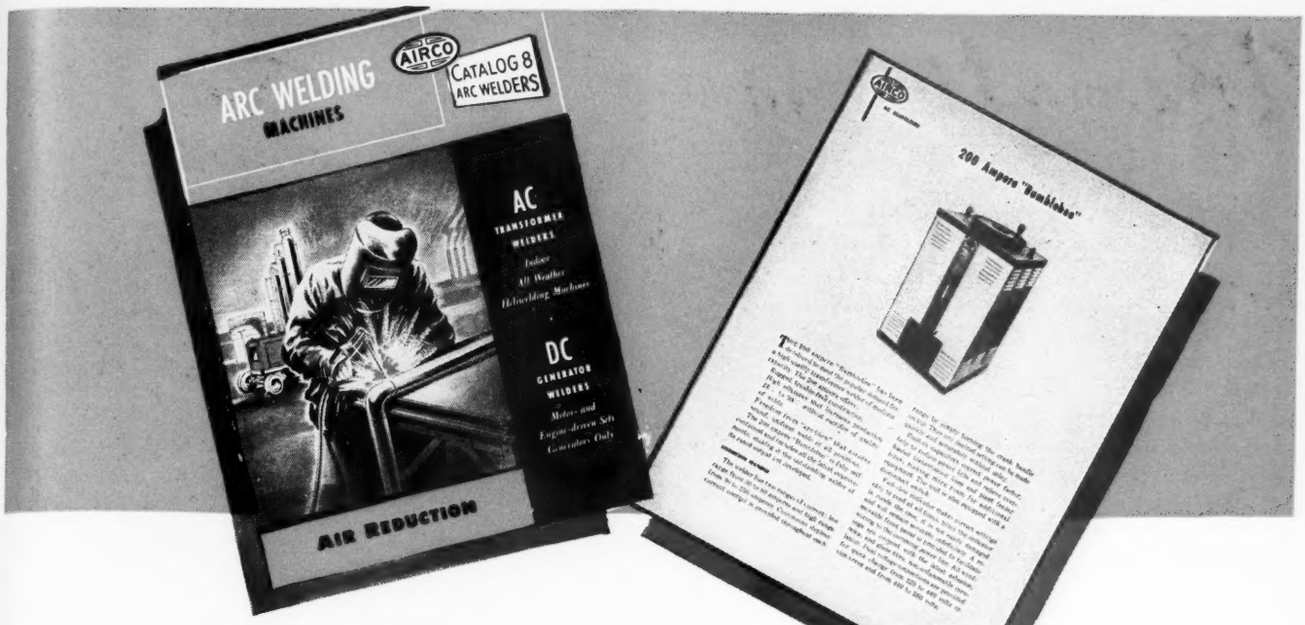

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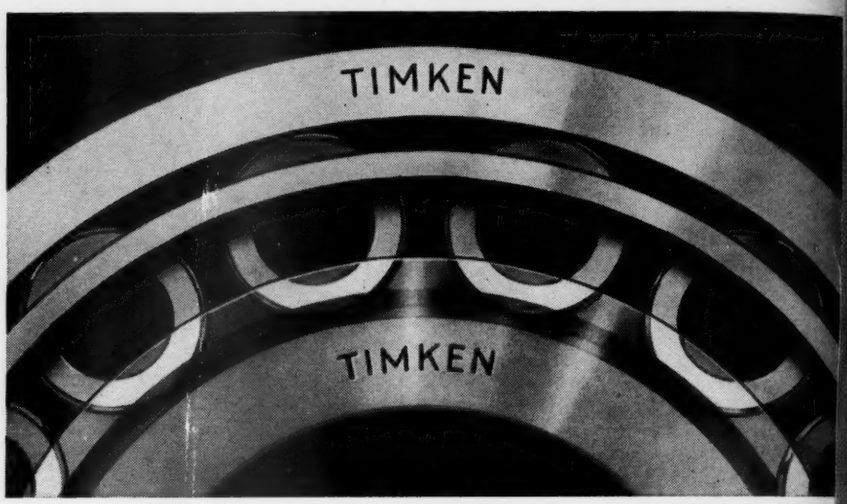

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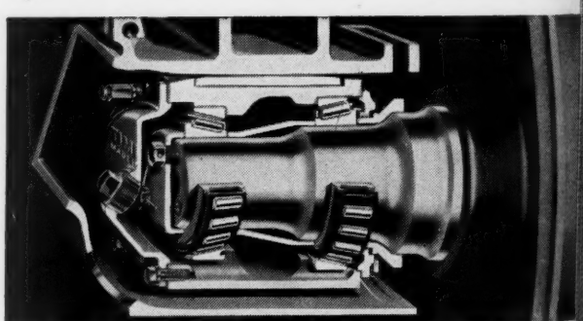

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